AR2270

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 9

In the matter of: McColl Superfund Site SSID 0904 RESPONDENTS: Shell Oil Company, Inc.; Union Oil Company of California, Inc.; Texaco, Inc.; Atlantic Richfield Company, Inc.; Phillips Petroleum, Inc.; McAuley LCX, Inc. Proceeding Under Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. § 9606(a)).	U.S. EPA Docket No. 90-12

UNILATERAL ADMINISTRATIVE ORDER FOR PARTIAL REMEDIAL INVESTIGATION AND RESPONSE ACTIONS

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I. AUTHORITY

This Unilateral Administrative Order ("Order") is issued pursuant to the authority vested in the President of the United States by Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("CERCLA"), 42 U.S.C. § 106(a). The President delegated this authority to the Administrator of the United States Environmental Protection Agency ("EPA" or "Agency") by Executive Order 12580, 52 Fed. Reg. 2923, and further delegated it to the Assistant Administrator for Solid Waste and Emergency Response and the Regional Administrators by EPA Delegation Nos. 14-8-A and 14-14-C. This authority has been redelegated to the Director, Hazardous Waste Management Division, EPA, Region 9 ("Director").

II. DEFINITIONS

A. "Site" means the McColl Superfund Site which is located in Fullerton, California. The surface portion of the Site includes a parcel of land approximately 22 acres in size which is near the intersection of Rosecrans Avenue and Sunny Ridge Drive, and is adjacent to Los Coyotes Regional Park and Los Coyotes Golf Course. The subsurface portion of the Site includes areas below the surface portion of the Site and areas adjacent thereto to which hazardous substances have migrated.

B. "Day" means calendar day unless otherwise noted in this Order.

C. "Week" means calendar week, Sunday through Saturday, unless otherwise noted in this Order.

D. "Month" means calendar month unless otherwise noted in

this Order.

III. PARTIES BOUND

A. This order applies to the persons listed below. Where in this Order reference is made to the persons listed below in subparagraphs 1 through 5, such persons are hereinafter collectively referred to as "the Oil Companies." Where in this Order reference is made to the person listed below in subparagraph 6, such person is hereinafter referred to as "McAuley." Where in this Order reference is made to all the persons listed below, such persons are collectively referred to as "the Respondents."

1. Shell Oil Company, Inc.
2. Union Oil Company of California, Inc.
3. Atlantic Richfield Company, Inc.
4. Texaco, Inc.
5. Phillips Petroleum, Inc.
6. McAuley LCX, Inc.

B. This Order shall apply to and be binding upon the Oil Companies and their employees, agents, successors, and assigns. The Oil Companies are jointly and severally responsible for carrying out all activities required of them by this Order. No change in ownership or corporate or partnership status will alter the Oil Companies' obligations under this Order. The Oil Companies shall provide a copy of this Order to all contractors, subcontractors, laboratories, and consultants which are retained by the Oil Companies to perform the work required by this Order, within five days after the effective date of this Order or within five days of retaining their services. Notwithstanding the terms

of any contract or agreement, the Oil Companies are responsible for compliance with this Order and for ensuring that their employees, contractors, and agents comply with this Order.

C. This Order shall apply to and be binding upon McAuley and its employees, agents, successors, and assigns. McAuley shall not convey any title, easement, or other interest it may have in any property comprising the Site without a provision permitting the continuous implementation of the provisions of this Order. McAuley shall provide a copy of this Order to any subsequent owner(s) or successor(s) before ownership rights are transferred.

IV. FINDINGS OF FACT

A. The Site was used by the each of the Oil Companies for the disposal of petroleum refinery waste from 1942 to 1946. At that time, the surrounding property was relatively undeveloped except for an oil field to the north, and a hog farm and agricultural land to the south. The Oil Companies arranged, by contract or agreement, or otherwise, for their petroleum refinery waste to be deposited in twelve sumps, or large pits, at the Site. From the mid-1950s to 1962, four of the six eastern sumps were covered with drilling mud from nearby oil fields. The six western sumps were covered in the late 1950s by the construction of the Los Coyotes golf course.

B. In 1968, homes were built in the area approaching the eastern border of the Site. From 1978 to 1980, residential development was completed in the areas east, south and north of the Site. Subsequently, local, state and federal agencies in-

itiated investigations at the Site due to complaints about odors and health problems from residents near the Site.

C. The Site is on the EPA's National Priority List. See 40 C.F.R. Part 300, App. B (7-1-89 Edition).

D. In an order issued by the EPA to the Respondents (or predecessors in interest to the Respondents), on July 2, 1984, Docket No. 84-13 ("1984 Order"), the EPA summarized data concerning the chemicals found at the Site. That data and the findings based on that data are incorporated by reference into this Order. A myriad of chemicals, both organic and inorganic, have been detected at the Site in the petroleum refinery waste sent there by the Oil Companies, and in soil and ground water contaminated by the petroleum refinery waste. Among the inorganic chemicals found at the Site and associated with the Oil Companies' petroleum refinery waste are arsenic, barium, chromium, copper, lead, nickel, vanadium, and zinc. Among the organic chemicals found at the Site and associated with the Oil Companies' petroleum refinery waste are acetone, MEK, benzene, toluene, ethylbenzene, xylene, napthalene, 2-methylpentane, and BEHP. Among the chemicals found at the Site are human carcinogens and probable human carcinogens. In addition, many of the chemicals found at the Site are toxic and pose a significant risk to human health. A copy of the 1984 Order is attached to this Order.

E. In the 1984 Order, the EPA summarized data concerning detected releases of hazardous substances from the Site and the threat of future releases of hazardous substances from the Site. That data and the findings based on that data are incorporated by

reference into this Order. Since the 1984 Order, additional studies of the Site have shown that contaminants from the petroleum refinery waste at the Site have been released into ground water in the area of the Site.

F. McAuley is now, and has been since December 1980, the owner of a portion of the Site upon which hazardous substances are located.

V. CONCLUSIONS OF LAW

A. The Site is a "facility" as defined in Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

B. Each of the Respondents is a "person" as defined in Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).

C. The petroleum refinery waste, chemicals and their constituents sent by each of the Oil Companies to the Site and currently located at the Site are "hazardous substances" as defined in Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

D. The past, present, and potential migration of hazardous substances from the facility constitutes an actual or threatened "release" as defined in Section 101(22) of CERCLA, 42 U.S.C. § 9601(22).

E. McAuley currently owns, and has owned since on or about December 1980, a portion of the Site upon which hazardous substances are located.

F. Each of the Respondents is a potentially responsible party as defined in Section 107(a) of CERCLA, 42 U.S.C. § 9607(a).

VI. DETERMINATIONS

A. I, the Director, determine that the actual and/or threat of release of one or more hazardous substances from the Site may present an imminent and substantial endangerment to the public health or welfare or the environment.

B. The actions required by this Order are necessary to protect the public health, welfare and the environment.

C. If performed satisfactorily, the actions required by this Order are consistent with the National Contingency Plan, 40 CFR Part 300 ("NCP").

VII. NOTICE TO THE STATE

Pursuant to Section 106(a) of CERCLA, 42 U.S.C. § 9606(a), the EPA has notified the State of California of the issuance of this Order by providing the California Department of Health Services a copy of this Order.

VIII. WORK TO BE PERFORMED

Based on the Findings of Fact, Conclusions of Law, and Determinations, I, the Director, hereby order the Respondents to implement the following measures under the oversight of the EPA's Remedial Project Manager, and to comply with all the requirements of this Order.

A. Within 45 days of the effective date of this Order, the Oil Companies shall submit to the EPA a complete work plan for the activities set forth in Attachment A to this Order. Attachment A describes the first phase of a ground water remedial investigation ("GWRI") to determine for purposes of remedy selection the nature and extent of contamination and the potential for

harm to the public health or welfare or the environment caused by the releases or threatened release to ground water of hazardous substances, pollutants, or contaminants at or from the Site.

B. Within 45 days of the effective date of this Order, the Oil Companies shall submit to the EPA a complete work plan for the activities set forth in Attachment B to this Order. Attachment B describes routine ground water monitoring ("RGWM") which the EPA has deemed necessary to characterize the Site.

C. Within 45 days of the effective date of this Order, the Oil Companies shall submit to the EPA a complete work plan for the activities set forth in Attachment C to this Order. Attachment C is a bid document which describes the Site maintenance work ("Maintenance") which the EPA has deemed necessary to temporarily stabilize the Site and protect the public health and the environment.

D. Within 45 days of the effective date of this Order, the Oil Companies shall submit to the EPA a complete work plan for the activities set forth in Attachment D to this Order. Attachment D is a bid document which describes the Site security work ("Security") which the EPA has deemed necessary to protect the public health.

E. The Oil Companies shall perform the tasks and submit the reports described in the GWRI work plan and the RGWM work plan, as these work plans have been approved or modified and approved by the EPA. All such work shall be conducted in accordance with: CERCLA; the NCP; EPA "Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA" (EPA, October 1988)

as it may be amended or superseded from time to time (collectively referred to herein as "RI/FS Guidance"); the standards, specifications, and schedules contained in the GWRI work plan or the RGWM work plan, whichever is applicable; the guidance referenced in Section X of this Order (Sampling, Access, and Data Availability); and any other applicable EPA guidance documents.

F. The Oil Companies shall perform the tasks and submit the reports described in the Security work plan and the Maintenance work plan, as these work plans have been approved or modified and approved by the EPA. All such work shall be conducted in accordance with CERCLA, the NCP, and the standards, specifications and schedule contained in the Security work plan and the Maintenance work plan.

G. All GWRI work and RGWM performed by or on behalf of the Oil Companies pursuant to this Order shall be performed under the direction and supervision of a registered civil engineer or California registered geologist with expertise in hazardous waste site investigation. Within 30 days prior to initiation of work at the Site, the Oil Companies shall notify the EPA in writing of the name, title and qualifications of such engineer or geologist and of any contractors and/or subcontractors to be used in carrying out the terms of this Order. The qualifications of the persons undertaking the work for the Oil Companies shall be subject to the EPA's review for verification that such persons meet the EPA's minimum technical background and experience requirements. If the EPA disapproves in writing of any person's technical and/or experience qualifications, the Oil Companies shall notify

the EPA within 30 days of the Oil Companies' receipt of the EPA's written notice, of the identity and qualifications of the replacement(s). A subsequent EPA disapproval of the replacement(s) shall be deemed a failure to comply with Order.

H. Subsequent to selection of the registered engineer, registered geologist, contractors, or subcontractors as described in Paragraph VIII.G., above, the Oil Companies may propose that different individuals, contractors and/or subcontractors direct and supervise the GWRI work and the RGWM required by this Order. If the Oil Companies wish to propose such a change, the Oil Companies shall notify the EPA in writing of the name, title, and qualifications of the proposed individuals and the names of principal contractors and/or subcontractors proposed to be used in carrying out the GWRI work required by this Order. Any such individual, contractors and/or subcontractors shall be subject to approval by the EPA. The EPA shall give the Oil Companies its approval or disapproval within thirty (30) days of receiving from the Oil Companies the information required by this Paragraph. The naming of any replacement(s) by the Oil Companies shall not relieve the Oil Companies of any of their obligations to perform the GWRI work and RGWM required by this Order. A subsequent EPA disapproval of the replacement(s) shall be deemed a failure to comply with Order.

I. The Oil Companies shall ensure that all Security and Maintenance work performed pursuant to this Order shall be performed by persons qualified to perform such work. Within 30 days prior to initiation of security and maintenance work at the Site,

the Oil Companies shall notify the EPA in writing of the name, title and qualifications of any contractors and/or subcontractors to be used in carrying out the security and maintenance work required by this Order. The qualifications of the persons undertaking this work for the Oil Companies shall be subject to the EPA's review for verification that such persons are adequately qualified. If the EPA disapproves in writing of any person(s) qualifications, the Oil Companies shall notify the EPA, within 30 days of the Oil Companies' receipt of the EPA's written notice, of the identity and qualifications of the replacement(s). A subsequent EPA disapproval of the replacement(s) shall be deemed a failure to comply with Order.

J. Subsequent to selection of the qualified persons described in Paragraph VIII.I., above, the Oil Companies may propose that different individuals, contractors and/or subcontractors Security and Maintenance work required by this Order. If the Oil Companies wish to propose such a change, the Oil Companies shall notify the EPA in writing of the name, title, and qualifications of the proposed individuals and the names of principal contractors and/or subcontractors proposed to be used in carrying out the Security and Maintenance work required by this Order. Any such individual, contractors and/or subcontractors shall be subject to approval by the EPA. The EPA shall give the Oil Companies its approval or disapproval within thirty (30) days of receiving from the Oil Companies the information required by this Paragraph. The naming of any replacement(s) by the Oil Companies shall not relieve the Oil Companies of any of their

obligations to perform the Security and Maintenance work required by this Order. A subsequent EPA disapproval of the replacement(s) shall be deemed a failure to comply with Order.

IX. EPA REVIEW OF DELIVERABLES

A. Within 30 days of the EPA's receipt of the work plans required by Paragraphs VIII.A. through VIII.D., above, the EPA shall review and either approve or disapprove each of the work plans, or shall notify the Oil Companies that the EPA requires additional time to review the work plan(s). The EPA shall transmit to the Oil Companies in writing its approval or disapproval of each work plan, or notice of the EPA's need for additional review time. In the event of any disapproval, the EPA shall specify the reasons for such disapproval and the EPA's recommended modifications. Within 15 days of receipt of any disapproval the Oil Companies shall resubmit to the EPA the work plan(s) modified according to the EPA's recommendations. If any modified work plan is again disapproved by the EPA, the EPA may draft its own work plan and incorporate it as part of this Order, and/or seek penalties from the Oil Companies for failing to comply with this Order, and/or conduct the remaining work required by this Order.

B. The EPA shall, as described in each EPA-approved work plan, review, comment upon, and approve or disapprove each report, document or other deliverable submitted by the Oil Companies. The EPA shall notify the Oil Companies in writing of the EPA's approval, disapproval or if the EPA requires additional review time. In the event of any disapproval, the EPA shall

specify the reasons for such disapproval, the EPA's recommended modifications, and a time frame for submission of the revised report, document, or deliverable. If the modified report, document or deliverable is again disapproved by the EPA, the EPA may draft its own report, document or deliverable and incorporate it as part of this Order, and/or seek penalties from the Oil Companies for failing to comply with this Order, and/or conduct the remaining work required by this Order.

C. All work plans, schedules, and other reports that require the EPA's approval and are submitted by the Oil Companies pursuant to this Order are incorporated in this Order upon approval by the EPA. All work plans, schedules, and other reports written by the EPA pursuant to this Order are incorporated in this Order when such work plans, schedules, and other reports are finalized by the EPA.

D. All documents, including progress reports, technical reports, and other correspondence to be submitted by the Respondents pursuant to this Order, shall be sent by overnight U.S. mail to the following addressees or to such other addressees as the EPA hereafter may designate in writing, and shall be deemed submitted on the date received by the EPA. Respondents shall submit three copies of each document to the EPA.

Documents to be submitted to the EPA shall be sent to:

Pam Wieman
Remedial Project Manager (H-6-1)
Hazardous Waste Management Division
U.S. EPA, Region 9
211 Main Street
San Francisco, CA 94105
Phone Number: (415) 744-1205

Copies shall be sent to:

Mark Leary
Chief, Special Projects Section
Toxics Substances Control Program
California Department of Health Services
P.O. Box 942732
Sacramento, California 94234-7320

X. SAMPLING, ACCESS, AND DATA/DOCUMENT AVAILABILITY

A. While conducting the sample collection and analysis activities required by the Order, the Oil Companies shall use the quality assurance, quality control, and chain of custody procedures described in the "EPA NEIC Policies and Procedures Manual," May 1978, revised May 1986, EPA-330/9-78-001-R, and "Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans, " December 1980, QAMS-005/80 ("QAPP Guidance"), and upon receipt by the Oil Companies from the EPA, any final amended or superseding versions of such documents. To provide quality assurance and maintain quality control, the Oil Companies shall:

1. Use a laboratory which has a documented Quality Assurance Program that complies with EPA guidance document QAMS-005/80.

2. Ensure that EPA personnel and/or EPA authorized representatives are allowed access to the laboratory and personnel utilized by the Oil Companies for analysis.

3. Ensure that the laboratory used by the Oil Companies for analysis performs such analyses according to a method or methods approved by the EPA in the Sampling and Analysis Plan to be submitted by the Oil Companies.

B. At the request of the EPA and upon two working days ad-

vance notice by the EPA, the Oil Companies shall provide to the EPA and/or its authorized representatives split or duplicate samples of any samples collected by the Oil Companies as part of the GWRI work plan or RGWM work plan. The Oil Companies shall notify the EPA in the preceding monthly report of any planned sample collection activity or, if circumstances preclude notice in the preceding monthly report, no later that seven days prior to the planned sampling event.

C. The Respondents shall permit the EPA and its authorized representatives to have access at reasonable times to the Site to monitor any activity conducted pursuant to the GWRI work plan, RGWM work plan, Security work plan, or Maintenance work plan and to conduct such tests or investigations as the EPA deems necessary. For those areas of the Site covered by the Security work plan, the Respondents shall permit such access at all times. Nothing in this Order shall be deemed a limit upon the EPA's authority under federal law to gain access to the Site.

D. Nothing in this Order shall be interpreted as limiting the EPA's inspection or information gathering authority under federal law.

E. For purposes of this Order, the EPA's authorized representatives shall include, but not be limited to, the California Department of Health Services and consultants and contractors hired by the EPA to oversee activities required by this Order.

XI. OTHER APPLICABLE LAWS

A. The Oil Companies shall undertake all actions required by this Order in accordance with the requirements of all ap-

plicable local, state, and federal laws and regulations unless an exemption from such requirements is specifically provided under CERCLA or unless the Oil Companies obtain a variance or exemption from the appropriate governmental authority.

B. Any materials removed from the Site shall be disposed of or treated at a facility in accordance with Section 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3).

XII. RECORD PRESERVATION

The Oil Companies shall maintain, during the pendency of this Order and for a minimum of six (6) years after the final Record of Decision for the Site has been signed, a central depository of the records and documents required to be prepared under the GWRI work plan, RGWM work plan, Security work plan, and Maintenance work plan. In addition, the Oil Companies shall cause to be retained copies of the most recent version of all documents that relate to hazardous substances at the Site and that are in their possession or in the possession of their employees, agents, contractors, or attorneys. After this six year period, the Oil Companies shall notify the EPA at least 30 days before the documents are scheduled to be destroyed. If the EPA so requests, the Oil Companies shall provide these documents to the EPA.

XIII. DESIGNATED REMEDIAL PROJECT MANAGERS

A. The EPA designates Pam Wieman, an employee of Region 9 of the EPA , as its Remedial Project Manager who shall have the authorities, duties, and responsibilities vested in the Remedial Project Manager by the NCP. Within 15 days of the effective date

of this Order, the Oil Companies shall designate a Project Coordinator who shall be responsible for overseeing the Oil Companies' implementation of this Order. The EPA Remedial Project Manager will be the EPA's designated representative at the Site. To the maximum extent possible, all oral communications between the Oil Companies and the EPA concerning the activities performed pursuant to this Order shall be directed through the EPA's Remedial Project Manager and the Oil Companies' Project Coordinator. All documents, including progress and technical reports, approvals, and other correspondence concerning the activities performed pursuant to the terms and conditions of this Order, shall be delivered in accordance with Paragraph IX.D.

B. The EPA and the Oil Companies may change their respective Remedial Project Manager and Project Coordinator. Such a change shall be accomplished by notifying the other party in writing at least one week prior to the change except in the case of an emergency, in which case notification shall be made orally followed by written notification as soon as possible.

C. Consistent with the provisions of this Order, the EPA Remedial Project Manager shall also have the authority vested in the On-Scene-Coordinator ("OSC") by the NCP, unless the EPA designates a separate individual as OSC, who shall then have such authority. This includes, but is not limited to, the authority to halt, modify, conduct, or direct any tasks required by this Order and/or undertake any response actions (or portions of the response action) when conditions present or may present a threat to public health or welfare or the environment as set forth in

the NCP.

D. The absence of the EPA Remedial Project Manager or OSC from the Site shall not be cause for the stoppage of work. Nothing in this Order shall limit the authority of the OSC or the EPA Remedial Project Manager under federal law.

XIV. MODIFICATION OF WORK REQUIRED

A. In the event of unanticipated or changed circumstances at the Site, the Oil Companies shall notify the EPA OSC and the EPA Remedial Project Manager by telephone within 24 hours of discovery of the new or changed circumstances. This verbal notification shall be followed by written notification postmarked within five days of discovery of the new or changed circumstances.

B. The Director may determine that in addition to tasks addressed herein, additional work may be required. Where consistent with Section 106(a) of CERCLA, the Director may direct as an amendment to this Order that the Oil Companies perform these response actions in addition to those required herein by any plan. The Oil Companies shall implement the additional tasks which the Director identifies. The additional work shall be completed according to the standards, specifications, and schedules set forth by the Director.

XV. PROGRESS REPORTS

The Oil Companies shall provide monthly progress reports to the EPA with respect to actions and activities undertaken pursuant to this Order. At a minimum these progress reports shall include: (1) a description of progress made during the reporting

period; (2) a summary of items submitted to the EPA under the Order during the reporting period; (3) a list of samples submitted for chemical analysis, including those for which analyses have been returned, and those for which analyses have not been returned, during the reporting period; (4) results of all sampling and/or tests or other technical data generated by the Oil Companies or on the Oil Companies behalf during the reporting period; (5) a description of work planned, including schedules, for the next two months after the reporting period; (6) a description of all problems encountered and solutions developed and implemented for those problems during the reporting period; and (7) a description of all problems anticipated in the next two months following the reporting period. The report for each month shall be postmarked no later than 10 days following the month for which the report was prepared.

XVI. SITE ACCESS

A. The Oil Companies shall, within 45 days of the effective date of this Order, undertake reasonable efforts to obtain access for the EPA, its contractors and oversight officials; state oversight officials and state contractors; and the Oil Companies or their authorized representatives. If access is not provided within the time referenced above, the EPA may obtain access under Sections 104(e) or 106(a) of CERCLA.

B. McAuley shall provide reasonable access to its property to the Oil Companies for the purpose of carrying out the requirements of this Order.

XVII. DELAY IN PERFORMANCE

A. The Oil Companies shall orally notify the EPA of any delay or anticipated delay in achieving compliance with any requirement of this Order. Such notification shall be made orally as soon as possible but no later than 24 hours after any delay or actual knowledge of any possible delay.

B. Oral notification made pursuant to Subparagraph A, above, shall be followed by written notification. Written notification shall be made no later than five days after becoming aware of such delay or the possibility of a delay. The written notification shall fully describe the nature of the delay; the reasons for the delay; the anticipated duration of the delay; and a schedule for implementation of any measures that will be taken to mitigate the effect of the delay. The Oil Companies shall adopt all reasonable measures to avoid or minimize any such delay. Notification of a delay or anticipated delay shall not relieve the Oil Companies from performing the activities required by this Order.

C. If the Oil Companies are unable to perform any activity or submit any document within the time required under this Order, the Oil Companies may, prior to the expiration of the time, request an extension of time in writing. The extension request shall include a justification for the delay. Submission of an extension request shall not affect the Oil Companies' obligation to comply with the requirements of this Order.

D. If the EPA determines that good cause exists for an extension of time, it will grant a request made pursuant to Sub-

paragraph C, above, and specify in writing a new schedule for completion of the activity and/or submission of the document.

XVIII. DISCLAIMER

The United States, by issuance of this Order, assumes no liability for any injuries or damages to persons or property resulting from acts or omissions by the Respondents, or their employees, agents, successors, assigns, contractors, or consultants in carrying out any action or activity pursuant to this Order. Neither the EPA nor the United States shall be held as a party to any contract entered into by the Respondents, or their employees, agents, successors, assigns, contractors, or consultants in carrying out any action or activity pursuant to this Order.

XIX. ENFORCEMENT AND RESERVATIONS

A. Respondents shall be subject to civil penalties under Section 106(b) of CERCLA, 42 U.S.C. § 9606(b), of not more than $25,000 for each day in which Respondents violate or fail to comply with the requirements of this Order. Failure to comply with this Order, or any portion hereof, without sufficient cause, may result in liability under Section 107(c)(3) of CERCLA, 42 U.S.C. §9607(c)(3), for punitive damages in an amount at least equal to, and not more than three times the amount of any costs incurred by the Hazardous Substance Superfund, as established by 26 U.S.C. § 9507, as a result of such failure to comply.

B. Notwithstanding compliance with the terms of this Order, including the completion of an EPA-approved GWRI, the Respondents are not released from liability, if any, for any enforcement ac-

tions beyond the terms of this Order taken by the EPA respecting the Site.

C. The EPA reserves the right to take any enforcement action pursuant to CERCLA and/or any other legal authority, including the right to seek injunctive relief, monetary penalties, reimbursement of response costs, and punitive damages for any violation of law or this Order.

D. The EPA expressly reserves all rights and defenses that it may have, including the EPA's right both to disapprove of work performed by the Oil Companies and to request that the Oil Companies perform tasks in addition to those detailed in the GWRI work plan, RGWM work plan, Security work plan, and Maintenance work plan, as provided in Section VIII (Work to be Performed) of this Order. The EPA reserves the right to undertake removal actions and/or remedial actions at any time. The EPA reserves the right to seek reimbursement from the Respondents for the costs incurred by the United States in removal and remedial actions.

E. This Order does not release the Respondents from any claim, cause of action or demand in law or equity, including, but not limited to, any claim, cause of action, or demand which lawfully may be asserted by representatives of the United States or the State of California.

F. No informal advice, guidance, suggestions, or comments by the EPA regarding reports, plans, specifications, schedules, and any other writing submitted by the Oil Companies will be construed as relieving the Oil Companies of their obligation to obtain such formal approval as may be required by this Order.

XX. EFFECTIVE DATE

This Order is effective on June 1, 1990, provided that each of the Respondents has received this Order prior to that date. If any of the the Respondents has not received the Order prior to June 1, 1990, the Order shall become effective on the latest date it is received by any of the Respondents.

XXI. OPPORTUNITY TO CONFER

A. Any of the Respondents may, within five days after receipt of this Order, request a conference with the EPA to discuss this Order. At any conference held pursuant such a request, the Respondents may appear by attorney or other representative(s) for the purpose of presenting any objections, defenses or contentions which the Respondents may have regarding this Order. This conference is not an evidentiary hearing, and does not constitute part of a proceeding to challenge this Order. This conference does not give a right of pre-enforcement judicial review, and no official stenographic record of the conference will be maintained. If such a conference is held, representatives of the EPA will consist of staff level employees assigned to the Site. Staff level representatives for the California Department of Health Services will also participate in any conference.

B. If the Respondents, or any one of them, desire a conference, Respondent(s) should contact Pam Wieman, Remedial Project Manager, 211 Main Street, San Francisco, California 94105, (415) 744-1205, by telephone within the time set forth above for requesting a conference. The conference, if any occurs, must be held no later than ten days after receipt of this

Order by the Respondent(s) requesting the conference. If more than one Respondent requests a conference, only one conference will be held for all the Respondents.

XXII. SEVERABILITY

If any provision or authority of this Order or the application of this Order to any circumstance is held by a Federal District Court to be invalid, the application of such provision to other circumstances and the remainder of this Order shall not be affected thereby, and the remainder of this Order shall remain in force.

XXIII. STATE AND LOCAL AGENCY PARTICIPATION

A. The McColl Interagency Committee ("IAC") consists of interested state and local agencies. The IAC meets on a regular basis to exchange information on activities at the Site and reviews and comments on actions undertaken at the Site.

B. The Oil Companies shall make available, upon request of the EPA's Remedial Project Manager, copies of any deliverable required by this Order to the members of the IAC for review. The EPA will provide the Oil Companies with a current mailing list for IAC members prior to the effective date of this Order. After the IAC members have had the opportunity to review the deliverables, the EPA may meet with the IAC members and the State to discuss the deliverables and prepare collaborative comments. Any collaborative comments and/or comments prepared by or on behalf of the EPA shall be submitted to the Oil Companies as the EPA's comments. The Oil Companies shall respond to all of these comments as may be required by the terms of Section VIII (Work to

be Performed).

XXIV. NOTICE OF INTENT TO COMPLY

Each of the Respondents shall, within ten days of receipt of this Order, provide written notice to the EPA stating whether it will comply with the terms of this Order. Failure to respond, or failure to agree to comply with this Order, shall be deemed a refusal to comply with this Order.

XXV. TERMINATION AND SATISFACTION

The provisions of this Order shall be deemed satisfied upon the Oil Companies' receipt of written notice from the EPA that the Oil Companies have demonstrated, to the satisfaction of the EPA, that all of the terms of this Order, including any additional tasks which the EPA has determined to be necessary, have been completed.

IT IS SO ORDERED:

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY

By: _____ Date: 5-23-90
Jeff Zelikson
Director
Hazardous Waste Management Division
Region 9

EPA Region 9 Contacts:

Pam Wieman
Remedial Project Manager (H-6-1)
Hazardous Waste Management Division
U.S. EPA, Region 9
211 Main Street
San Francisco, CA 94105
(415) 744-1205

Allan Zabel
Assistant Regional Counsel
Office of Regional Counsel (RC-2)
U.S. EPA, Region 9
1235 Mission Street
San Francisco, California 94103
(415) 556-5847

BEFORE THE UNITED STATES

ENVIRONMENTAL PROTECTION AGENCY

In the Matter of:	
SHELL OIL COMPANY; UNION OIL COMPANY; TEXACO, INC.; ATLANTIC RICHFIELD COMPANY; GETTY OIL COMPANY; AMINOIL, INC.; McAULEY OIL COMPANY; ERIC EULEN.	
Respondents.	Docket No. 84-13
Proceeding under Section 106 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. §9606.	ORDER

This Administrative Order (Order) is issued to the above-named Respondents by the United States Environmental Protection Agency (EPA), pursuant to Section 106(a) of the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA), 42 U.S.C. §9606(a), by authority delegated to the undersigned by the Administrator of the United States Environmental Protection Agency. Notice of the issuance of this Order has been provided to the State of California.

FINDINGS OF FACT

Site Location/Respondents

1. This Order relates to two parcels of land located south of Rosecrans Avenue and west of Sunny Ridge Drive in Fullerton, Orange County, California, known as the McColl site (the "site"). The site is comprised of two distinct parcels of land: the 7-acre "Ramparts" parcel, an undeveloped area, and the 3.5-acre "Los Coyotes" parcel, an operating private golf course. The site constitutes a facility as defined in §101(9) of CERCLA.

2. Respondent Shell Oil Company ("Shell") is incorporated under the laws of the State of Delaware. Shell arranged for disposal or transport for disposal at the site of hazardous substances generated at one or more of its facilities in the Southern California area.

3. Respondent Union Oil Company ("Union") is incorporated under the laws of the State of California. Union arranged for disposal or transport for disposal at the site of hazardous substances generated at one or more of its facilities in the Southern California area.

4. Respondent Texaco, Inc. ("Texaco") is incorporated under the laws of the State of Delaware. Texaco arranged for disposal or transport for disposal at the site of hazardous substances generated at one or more of its facilities in the Southern California area.

5. Respondent Atlantic Richfield Company ("ARCO") is incorporated under the laws of the State of Pennsylvania. ARCO arranged for disposal or transport for disposal at the site of hazardous substances generated at one or more of its facilities

in the Southern California area.

6. Respondent Getty Oil Company ("Getty") is incorporated under the laws of the State of Delaware. Getty arranged for disposal or transport for disposal at the site of hazardous substances generated at one or more of its facilities in the Southern California area.

7. Respondent Aminoil, Inc. ("Aminoil") is incorporated under the laws of the State of Delaware. Aminoil arranged for disposal or transport for disposal at the site of hazardous substances generated at one or more of its facilities in the Southern California area.

8. McCauley Oil Company ("McAuley") is incorporated under the laws of the State of California. McAuley is the owner of the "Los Coyotes" parcel at the McColl site.

9. Eric Eulen is a resident of the State of California, and EPA believes he is the owner of the "Ramparts" parcel.

Site History

10. The site was created as a disposal area for acid sludge wastes from the production of high octane aviation fuel. From 1942 to 1946, acid wastes from Southern California refineries were disposed of in the sumps created on the property, which was then in a rural area of Orange County. From 1951 to 1962, drilling muds were deposited on a portion of the Ramparts parcel in an attempt to mitigate the hazard that had been created by the acid wastes. In 1957, the Los Coyotes Golf Course and Country Club was constructed on top of the western six sumps. In the 1960's, developers began to build homes in the area adjacent to the site. Today, about 1,200 people live within one-half mile of the site.

[redacted]

Site Characterization

11. In 1982, Radian Corporation and TRC, Inc. conducted a characterization of the site and produced a report ("the Radian report"), funded by the State of California and four Respondents: Shell, Texaco, ARCO, and Union. The work consisted of surface and deep subsurface soil sampling, air emissions sampling and modeling from surface chambers, shallow mapping tubes, deep soil coreholes, a trench excavation to determine the depth of the wastes, air sampling and mapping of the extent and degree of the odors in the community, and limited groundwater monitoring.

12. According to the Radian report, approximately 150,000 cubic yards of waste and contaminated soil occupy 12 sumps on the site. The report states that the waste itself consists of 85,000 cubic yards of black, tar-like waste, hard asphaltic waste, and grey sludge-like drilling mud, characterized by a low pH (acid), high sulfur content, and high concentrations of organic sulfur, aromatics (benzenes) and aliphatic (straightchain) hydrocarbons. The soil below the waste has been contaminated by the acid component and the odiferous chemicals of the waste. Gas emissions from the undisturbed site produce low concentrations of sulfur dioxide and total hydrocarbons at the border of the site. Gas emissions also include benzene, toluene, and xylene. The chemical group of tetrahydrothiophenes is a cause of the odor problem in the community. This chemical is irritating to the human sense of smell in concentrations of a fraction of a part per billion, lower than can be detected in a laboratory. If the waste cap material is disturbed and the waste exposed without proper precautions, the gas emissions increase to about

1,000 to 10,000 times that of the undisturbed contaminants. Arsenic has been detected in the soil on one portion of the site.

Sampling Data

13. The California Department of Health Services (DOHS) analyzed air emissions from the site based on available data from air sampling studies conducted by a number of agencies and private companies. DOHS analysis indicates that there may be about 50 substances in the air during odor episodes (times when wind carries the chemicals into the adjoining residential area) that could be attributed to the dump. The following substances are attributable to the McColl site (substances identified in air samples but not present in site waste material are not included in this list):

A. Alkanes, Alkenes and Alcohols

2-Methylbutane

1,1-Dimethylcyclopropane

Hexane

2-Methyhexane

Heptane

2,5-Dimethylhexane

2,3,4-Trimethylpentane

Pentane

2-Methylpentane

Methylcyclopentane

2,3-Dimethylpentane

Methylcyclohexane

2,2-Dimethylhexane

2,3,3-Trimethylpentane

2,3-Dimethylhexane

2,2,5-Trimethylhexane

Isooctane

Pentene

4-Methylcyclopentene

Butanol

2-Butoxyethanol

3-Methylheptane

Nonane

2-Pentene

3-Methylpentane

2-Ethyl-1-hexanol

Ethanol

B. Aromatics

1,2,4-Trimethylbenzene

o-xylene

Naphthalene

Toluene

m,p-xylene

Ethylbenzene

C. Thioethers

Tetrahydrothiophene

D. Sulfur Dioxide

E. Carbon Disulfide

F. Benzene

14. Analysis of samples from the waste site for pH by Radian and the State of California Department of Health Services (DOHS)

revealed that the waste is acidic, with the pH ranging from 0.17 to 1.8.

15. On October 9, 1980, EPA and the California DOHS sampled waste from the site, with selected results as follows:

Compound	Concentration
Arsenic	None Detected to 190 ppm
Benzene	<90 to 880 mg/kg
Toluene	130 to 810 mg/kg
Tetrahydrothiophene	75 to 140 mg/kg

16. A sample of waste from the site collected by the California DOHS on December 3, 1980, had an arsenic concentration of 10,100 ug/g.

17. EPA's analysis of waste and soil samples collected January 13, 1981, revealed the following concentrations:

Compound	Concentration
Benzene	5.6 to 220 mg/kg
Toluene	26 to 150 mg/kg
Xylene	None Detected to 660 mg/kg

18. Samples of waste from the site collected by California DOHS on June 1, 1981, revealed arsenic concentrations from <1.0 to 222.0 ug/g.

19. The State of California Air Resources Board analyzed emissions from soil and sludge from the site at room temperature as follows:

Compound	Concentration
Benzene	20 to 300 ppm
Toluene	9 to 100 ppm
Xylene	10 to 100 ppm
Aliphatic Hydrocarbons	7 to 1600 ppm

20. The California Air Resources Board sampled ambient air during coring on-site by California DOHS in November 1980 with the following results:

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Compound	Concentration
Benzene	8.2 to 43 ppm
Sulfur Dioxide	280 to 38,000 ppm

21. In 1982, TRC Environmental Consultants, Inc. under contract to the California DOHS, measured air emissions containing sulfur dioxide (SO_2) at the site perimeter during coring and trenching on-site by DOHS. SO_2 levels ranged from 10 to 2500 ppb. During the same time period benzene monitors in the community registered 5 to 170 ppb.

22. Arsenic concentrations from 0.043 to 0.523 mg/l and pH of 2.5 to 7.54 were found by the California Regional Water Quality Control Board in water runoff sampled from the site on January 21, 1982.

23. Benzene, toluene, xylene, and arsenic are hazardous substances as defined in §101(14) of CERCLA.

Endangerment

24. (A) Air Contaminants

Benzene, toluene and xylene, sulfur dioxide, and sulfur-containing organics are the most significant hazards to human health which are transmitted through the air.

(1) Benzene. Benzene has been detected in community air samples taken from the site. Benzene acts as a narcotic on the central nervous system. Acute benzene poisoning commences with nausea, vomiting, ataxia, and excitement, followed by depression and coma. Death can occur because of respiratory or cardiac failure. An exposure to 20,000 parts per million can be fatal within 5 to 10 minutes. Exposure to 100 parts per million daily can cause confusion, dizziness, fatigue, headache, nausea, and coma. There appears to be a correlation between benzene exposure and

leukemia in humans. Although benzene emissions from the undisturbed site have not been measured at hazardous levels, higher emissions have been measured from the disturbed site. Moreover, the threat of a benzene release from a site disturbance, such as an earthquake, may present a substantial danger to the surrounding community.

(2) Toluene and Xylene. Toluene and xylene have been detected in waste samples and air emissions from the site. Inhalation of toluene vapors may produce irritation of the upper respiratory tract, disturbance of vision, dizziness, nausea, collapse, and coma. Direct contact with skin and eyes causes burning. Inhalation of 200 parts per million for 8 hours may cause impairment of coordination or reaction time. Concentrations of 200 to 500 parts per million may cause headache, nausea, loss of appetite, lassitude, and impairment of coordination and reaction time. Higher concentrations may cause anemia, leucopenia and enlargement of the liver.

(3) Sulfur Dioxide. Sulfur dioxide has been detected in community air samples and in air emission samples taken at the site. At concentrations as low as 0.09 parts per million, sulfur dioxide acts as a respiratory irritant. During site disturbances, sulfur dioxide levels in the community have reached 1,000 parts per million. On-site emissions can be much higher, posing an imminent hazard to anyone disturbing the site.

(4) Sulfur-Containing Organics. These organics, which have been detected in community air samples, cause unpleasant odors at extremely low concentrations -- part-per-billion levels. EPA knows of no studies of the effects of such chemicals on humans.

(B) Water Contaminants

Storm water runoff from the site has contained arsenic in excess of the Federal drinking water standard. Samples of perched groundwater at 15 to 42 feet underlying the site reveal low pH and high arsenic and sulfate levels. The McColl site is underlain by a mixture of mudstone, sandstone and pebbly sandstone. Observation at and near the site reveal that the underlying soil contains an assemblage of lenses and layers of clay, silt, sand and gravel. If the waste remains on site, there are no known barriers to prevent the migration of hazardous substances at the site into the ground water.

(C) Endangerment Through Direct Contact

People regularly walk upon the Los Coyotes parcel, which is used for a golf course. The Ramparts parcel, although fenced, is bordered by homes to the east and south, and the fence has not prevented children and others from entering the land. The two primary direct contact hazards are ingestion of arsenic and contact with acidic sludge.

(1) Arsenic. Arsenic has been detected in waste samples collected at the site in concentrations of 10,100 ug/g. There is strong evidence that arsenic is a skin and lung carcinogen in humans. Although the fatal dose of arsenic depends on body weight, ingestion of a "pinch" of soil of such concentration could produce acute poisoning, especially in children.

(2) Acidic Sludge. Acidic liquids oozing near the surface pose a danger to humans. Golfers and children looking for lost golf balls are likely to be exposed to direct contact

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with the waste, which can cause burns to the eyes and skin. The State DOHS Health Survey identified the significant risks of harm to people from direct contact with the site:

> "Scientists from the [State of California] Department of Health Services are concerned about the potential health effects from direct contact with waste materials on these sites. Seepage materials on the Los Coyotes Golf Course are very acidic and could cause burns to the eyes or skin from direct contact. On the Ramparts portion of the McColl site there is also the potential for acid burns. Digging of a shallow hole a foot or two deep could release a quantity of sulfur dioxide gas measurable in the thousands of parts per million range. This could cause respiratory burns or precipitate an asthmatic attack in individuals who are standing within a few feet of the hole. Finally, there is at least one area (near the southwest corner of Ramparts) with concentrations of arsenic sufficiently high that accidental ingestion of a pinch of soil could produce acute poisoning within 48 hours. These facts lead scientists and physicians from the Department of Health Services to conclude that direct contact with the site poses a significant public health hazard." ("The McColl Site Health Survey, An Epidemiological and Toxicological Assessment of the McColl Hazardous Waste Disposal Site," August 1983, p. 9.)

(D) Documented Human Health Symptoms

There are approximately 1,200 people living within one-half mile of the site. The State of California Department of Health Services Epidemiological Studies Section conducted an

epidemiological and toxicological assessment of nearby residents which was completed in August, 1983. Among the study findings were the following:

(1) Adults and children in the area show an excess of such symptoms as eye irritation, nausea, headaches, and sore throats.

(2) Complaints of odor were much more common from residents of the McColl area than from residents of the control area.

(3) The number of physician consultations per child were higher in the McColl area than in the control area.

(4) More women in the McColl area reported disturbances with their menstrual pattern than in the control area.

(5) It is impossible now to adequately assess whether the McColl site presents a danger of increased cancer or birth defects to area residents. A small population, followed for only a few years after first exposure, would not be expected to have a detectable increase in cancer rates. The population surrounding the site is much smaller than that necessary for adequate epidemiological studies. In order to detect a statistically significant difference in symptoms such as cancer, miscarriage, stillbirths, prematurity, and birth defects, the residents near the site would have to exhibit five to twenty <u>times</u> more symptoms than the control neighborhood. No differences of that magnitude have been detected. Differences of a lesser, though still serious, magnitude cannot be ruled out, however.

<u>Earthquake Danger</u>

25. The McColl site is located on the Coyote Hills uplift. A low scarp along the south margin of the Coyote Hills is surface evidence of an active fault, and a source of earthquakes. There

have been earthquakes of magnitude 6 or greater in this area in the past, and the Seismologist for the California Division of Mines and Geology states that it is reasonable to expect similar and larger shocks in the future. There are seven active faults within 16 miles of the McColl site: the Norwalk, El Modeno, Whittier, Elsinore, Whittier-Elsinore, Newport-Inglewood, and the offshore zone of deformation (ranging from the Newport-Inglewood fault to the north to and including the Rose Canyon fault on the south). The closest fault is the Norwalk, less than one mile from the site.

26. The State DOHS made stability analyses of postulated failure surfaces along nine (9) cross sections of the site (through three places on the lower berm and six places on the upper berm). Under conditions of seismic shaking, two (2) of the cross sections would fail (there would be earth movement) when dry and seven (7) would fail when saturated.

27. The State Department of Health Services Geotechnical investigation of the McColl site indicated that an earthquake of magnitude 6 or greater would cause "a slumping of the complete upper berm and a significant slump of the lower berm" into a backyard adjacent to the site, and that there could be enough offsite movement for mudflow to reach the edge of the swimming pool on the lot adjacent to the lower berm. The State report concluded:

> "The most significant aspect of these failures [of the berms] would be a rupture of the waste, with as much as 3,000 square feet of exposed surface area. This would allow the release of a significant amount of noxious gases,

consisting of SO_2, H_2S, and others." ("Geotechnical Investigation of the McColl Site," January 8, 1982, Alternative Technology and Policy Development Section, Department of Health Services, p. 5.)

Administrative Actions

28. On January 13, 1984, the California Department of Health Services determined, on the basis of its factual review of the site, that there may be an imminent or substantial endangerment to the health or welfare or to the environment at the site. The Department's principal findings and recommendations were summarized as follows:

"The McColl hazardous waste site in Fullerton consists of acid refinery sludge high in sulfur compounds. Four of the sumps are exposed on land adjacent to a residential development. There has been a history of odor complaints due to emissions of sulfur dioxide, thiophenes and other hydrocarbons. Sulfur dioxide is found on site and is highly toxic at the concentrations observed. A temporary cover was placed over four of the sumps to stop the emission of gases. This was only intended as an interim measure and is now resulting in emissions reoccurring. A health study has indicated that the site has had measurable health effects such as asthma, headaches, and sore throats of residents in the neighborhood. This represents an imminent or substantial endangerment to public health and the environment due to a threatened release of hazardous substance[s]."

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29. On April 11, 1984, the Environmental Protection Agency determined that excavation and redisposal of the waste and contaminated soil at the McColl site was the cost-effective remedial alternative, pursuant to 40 CFR §300.68(j). A Record of Decision, signed by Lee Thomas, Assistant Administrator for Solid Waste and Emergency Response, on April 11, 1984, is incorportated herein as Appendix C.

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CONCLUSIONS OF LAW

1. The Ramparts parcel and the Los Coyotes parcel of the McColl site are "facilities" as defined in Section 101(9) of CERCLA, 42 U.S.C. 9601(9).

2. Respondents are "persons" as defined in Section 101(21) of CERCLA, 42 U.S.C. 9601(21).

3. Wastes sent to and disposed of at the site by Respondents include "hazardous substances" as defined in Section 101(14) of CERCLA, 42 U.S.C. 9601(14).

4. The past, present, and potential migration of hazardous substances from the facilities into the air and water constitutes actual and threatened "release" as defined in Section 101(22) of CERCLA, 42 U.S.C. 9601(22).

5. Respondents McAuley Oil Company and Eric Eulen are responsible parties pursuant to §107(a)(1) of CERCLA, because they are the present owners of the site.

6. The Generator-Respondents (those respondents not identified in the preceding paragraph) are each responsible parties pursuant to §107(a)(3) of CERCLA because they each arranged for the disposal or treatment, or transport for disposal or treatment at the site, of hazardous substances owned or possessed by them.

7. The Respondents are jointly and severally liable for undertaking the response action required by this order unless specifically indicated otherwise.

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DETERMINATIONS

Based upon the foregoing FINDINGS OF FACT and CONCLUSIONS OF LAW, EPA has determined that:

1. The actual and threatened release of hazardous substances from the facility may present an imminent and substantial endangerment to the public health, welfare, and the environment.

2. The response actions required by this Order are necessary to protect public health and welfare and the environment.

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ORDER

Based upon the foregoing FINDINGS OF FACT, CONCLUSIONS OF LAW, and DETERMINATIONS, IT IS HEREBY ORDERED:

I. Implementation of Remedial Plan

Respondents jointly and severally shall implement, at their own expense, the Remedial Plan described in Appendix A of this Order. Respondents may utilize the specifications established by DOHS, set forth in Appendix B, or may develop their own specifications to implement the Remedial Plan described in Appendix A. This Plan requires the excavation of the McColl waste and contaminated soil, its disposal at a suitable disposal site, and monitoring of the site for contaminants. Respondents shall implement the Plan in accordance with the following timetable:

A. Within thirty (30) days of the effective date of this Order, Respondents shall submit a detailed work plan and implementation schedule for the Remedial Action activities described in Appendix A. Respondents shall simultaneously submit to EPA for review and approval a proposal for a financial assurance mechanism (such as a trust fund or escrow account) sufficient to guarantee operation and maintenance and monitoring of the site in perpetuity.

B. Upon approval of the work plan and schedule by EPA, Respondents shall complete the Remedial Action in accordance with the approved plan and schedule, but in no event later than 20 months from the effective date of this Order. Immediately upon EPA approval of the proposed financial assurance mechanism, Respondents shall cause that mechanism to be established.

C. Upon completion of the Remedial Action, Respondents shall submit to EPA for review and approval, a final report which describes in detail all work undertaken, data, results, evaluations, conclusions, and recommendations. In the event of disapproval of the report, EPA shall inform Respondents of the deficiencies, and Repondents shall make modifications, acquire additional information, and otherwise act to correct the deficiencies.

D. Respondents shall provide for operation, maintenance and monitoring of the site in accordance with the plans and schedule in the approved Remedial Action work plan submittal.

II. Project Coordinators

Within fifteen (15) days of the effective date of this Order, each Respondent shall designate, and provide EPA with the name and address of, a Project Coordinator whose responsibilities will be to receive all notices, comments, approvals and other communications from EPA to the Respondent. Each Respondent shall coordinate its activities pursuant to this Order with all other Respondents to ensure successful completion of all required actions. In the event that Respondents choose to designate a single Project Coordinator to represent all or some of the Respondents for this purpose, EPA shall be so notified.

III. Endangerment During Implementation

In the event that the Regional Administrator of EPA, Region 9, determines that any activities (whether pursued in implementation of or in noncompliance with this Order) or circumstances are creating an imminent and substantial endangerment to the health and welfare of people on the site or in the surrounding

area or to the environment, the Regional Administrator of EPA, Region 9, may order Respondents to stop further implementation of this Order for such period of time as needed to abate the endangerment.

IV. Compliance with Applicable Laws

All actions carried out by Respondents pursuant to this Order shall be done in accordance with all applicable Federal, State and local requirements, including requirements to obtain necessary permits and to assure workers' safety.

V. Monitoring

Upon request, Respondents will provide EPA with split samples of any samples collected on the site. Respondents shall provide EPA with at least seven (7) days notice prior to any sampling undertaken pursuant to this Order.

VI. Incorporation of Documents

Any reports, plans, specifications, schedules and other documents required by the terms of this Order are, upon written approval by EPA, incorporated as a part of this Order.

VII. Enforcement

Violation of this Order shall be enforceable pursuant to Sections 106(b) and 113(b) of CERCLA, 42 U.S.C. 9606(b) and 9613(b).

VIII. Penalties for Noncompliance

Failure to comply may also subject Respondents to civil penalties and/or punitive damages in an amount up to three times the amount of any costs incurred by the United States as a result of such failure, as provided in Sections 106(b) and

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107(c)(3) of CERCLA, 42 U.S.C. 9606(b) and 9607(c)(3). Nothing herein shall preclude EPA from taking such other actions as may be necessary to protect the public health or welfare or the environment and recovering the costs thereof.

IX. Liability

Nothing herein shall constitute or be construed as a satisfaction or release from liability for any conditions or claims arising as a result of past, current or future operations at the facility. Notwithstanding compliance with the terms of this Order, Respondents may be required to take further actions as are necessary to protect public health or welfare or the environment.

X. Performance

All response work performed pursuant to this Order shall be under the direction and supervision of a qualified professional engineer or certified geologist with expertise and experience in hazardous waste site cleanup. Respondents shall provide EPA with the name(s) of such engineer(s) or geologist(s) and of any contractors and subcontractors to be used in carrying out the terms of this Order in advance of their involvement at the site.

XI. Quality Assurance

Respondents shall use quality assurance, quality control, and chain-of-custody procedures in accordance with EPA Guidance Document QAMS-005/80 throughout all activities. Respondents shall consult with EPA in planning for sampling and analysis. Respondents shall provide quality control reports to EPA and California DOHS certifying that all activities have been performed as approved, in accordance with paragraph XII below.

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XII. Reporting

The Respondents shall provide written progress reports to EPA, due on the fifth day of each month after the effective date of this Order, describing all activities undertaken pursuant to the Order in the previous month, and activities planned for the then current and next coming months.

XIII. Site Access

Access to the site shall be provided to EPA and California DOHS employees, contractors and consultants and all Respondents, at all reasonable times. Nothing in this paragraph is intended to limit in any way the right of entry or inspection that EPA may otherwise have by operation of any law.

XIV. Government Liabilities

The United States shall not be liable for any injuries or damages to persons or property resulting from acts or omissions by the Respondents, its employees, agents or contractors in carrying out activities pursuant to this Order, nor shall the Federal Government be held as a party to any contract entered into by the Respondents or its agents in carrying out activities pursuant to this Order.

XV. Notice of Intent to Comply

Each respondent shall inform EPA, in writing, within seven (7) days after the effective date of this Order, of its intent to comply with the terms of the Order.

XVI. Notifications

All submittals and notifications to EPA pursuant to this Order shall be made to:

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Director, Toxics and Waste Management Division (T-1)
Environmental Protection Agency, Region 9
215 Fremont Street
San Francisco, CA 94105.

Copies of all submittals and notifications shall be sent simultaneously to:

Thomas Bailey
Toxics Substances Control Division
California Department of Health Services
714 P Street
Sacramento, California 95814

All approvals and decisions of EPA made regarding such submittals and notifications shall be communicated to Respondents by the Director, Toxics and Waste Management Division, U.S. Environmental Protection Agency, Region 9. No informal advice, guidance, suggestions or comments by EPA regarding reports, plans, specifications, schedules or any other writing submitted by Respondent shall be construed to relieve Respondent of its obligation to obtain such formal approvals as may be required herein.

XVII. On-Scene Representative

EPA shall appoint an On-Site Representative (OSR) who shall have authority to be on-site at all times when response work is being undertaken pursuant to this Order. The OSR shall have at least the authority to: (1) take samples or direct the type, quantity and location of samples to be taken by Respondents; (2) direct that work stop for a period not to exceed 72 hours whenever the OSR determines that activities at the site may create an immediate and significant threat to public health or welfare or the environment; (3) observe, take photographs and make such other reports on the progress of the work as the OSR deems appropriate; (4) review records, files and documents relevant to the

Order; and (5) make or authorize minor field modifications in the studies, techniques, procedures or design utilized in carrying out this Order which are necessary to the completion of the project. The absence of the OSR from the site shall not be cause for stoppage of work. The OSR shall have the same authority as that vested in the "On-Scene Coordinator" by 40 CFR §300 et seq., published at 42 Fed.Reg. 31180 (July 16, 1982).

XVIII. Parties Bound

This Order shall apply to and be binding upon the Respondents, their officers, directors, agents, employees, contractors, successors, and assigns.

XIX. Opportunity to Confer

The Respondents may request, within seven (7) days after receipt of this Order, a conference with EPA to be held within fourteen (14) days of the date of issuance to discuss this Order, including its applicability, the factual determinations upon which the Order is based, the appropriateness of any actions which the Respondents are ordered to take, or any other relevant and material issues or contentions which Respondents may have regarding this Order. Respondents may appear in person or by an attorney or other representative at any conference held at its request. Any request for a conference should be made to:

William D. Wick
Assistant Regional Counsel
EPA, Region 9
215 Fremont Street
San Francisco, CA 94105
(415) 974-8039

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XX. Effective Date

This Order is effective twenty-one (21) days after the date of issuance, notwithstanding any conferences requested pursuant to paragraph XIX above, and all times for performance or response activities shall be calculated from that date.

Date of Issuance: 20 JUL 1984 By: Judith E. Ayres

Judith E. Ayres
Regional Administrator
U. S. Environmental Protection Agency
Region 9
215 Fremont Street
San Francisco, CA 94105

Appendix A - Remedial Plan

I. Extent of Contamination - The McColl waste consists of hard, black, asphaltic material; high viscosity, tar-like waste; and gray semi-solid sludge. Contaminated soil is that soil into which the waste has penetrated based on visual observation. Based on currently available data, EPA has estimated that there are approximately 150,000 cubic yards of waste and contaminated soil to be excavated at the McColl site.

II. General Concept - The Remedial Plan for the McColl site shall be as set forth generally below. Additional specifications are included in Section III of this Appendix. For your information Appendix A is an excavation and redisposal design developed for the State of California. As specified in Section I.B. of the Order, Respondents may not implement the remedial action until the workplan and schedule have been approved by EPA.

A. All waste and obviously contaminated soil (as defined in Section III.B.) will be excavated and disposed of at a disposal facility which is in compliance with the Resource Conservation and Recovery Act (RCRA) and which has been approved by EPA.

B. Overburden that is determined not to be contaminated will be stockpiled on-site for use as fill once the waste and contaminated soil are removed.

C. Soil below the waste that is not visually contaminated will be sampled to ensure that it is not a hazardous substance

as defined by CERCLA Section 101(14), 42 USC 9601(14).

D. Ground water monitoring will be implemented to ensure that there is no ground water contamination attributable to the site. Ground water is considered contaminated if the concentration of any constituent exceeds published standards or EPA's goals to protect public health.

E. Gaseous emission control measures shall be implemented during excavation to meet the air cleanup criteria described in Section III.D. of this Appendix. Such measures may include the use of foams or excavation carried out under a structure which contains any emissions.

F. An air monitoring system will be implemented which is sufficient to determine compliance with the ambient air standards listed in Section III.D. of this Appendix.

G. After excavation the site shall be recontoured to a configuration that will prevent ponding of rainwater and provide erosion control. The site will also be seeded to provide erosion control.

III. Additional Specifications

A. Site Preparation - For your information Appendix B contains the plans for site preparation which were developed by the State of California. You may use these plans if you so desire.

B. Extent of removal - Material to be removed from the McColl site shall include all waste and obviously contaminated soil. The determination that soil is obviously contaminated

is based on visual observation that waste material has penetrated the soil.

C. All site work shall comply with the requirements of any applicable regulations, including, but not limited to, the Resource Conservation and Recovery Act.

D. The remedial action must meet the following cleanup criteria designed to protect public health and the environment.

Water Criteria

- Minimize standing water.
- No run-off of sediments and water from the site.

Air Criteria

- Control measures will be implemented to maintain odor levels below an appropriate threshold level established by the South Coast Air Quality Management District.
- Odor control measures will be implemented to reduce the release of odors during off-site transportation of any wastes.
- 24-hour time weighted average sulfur dioxide concentration of 0.05 ppm shall not be exceeded.
- 1-hour time weighted average sulfur dioxide concentration of 0.1 ppm shall not be exceeded.
- 5-minute time weighted average sulfur dioxide concentration of 0.5 ppm shall not be exceeded.
- The downwind instantaneous fence-line trigger level for benzene will be 2.0 ppm for a meteorological stability class of "D" and a 100-foot dilution distance.

E. Prior to initiation of work on-site, respondent shall prepare and submit to EPA and California DOHS for approval the following documents:

1. A site safety plan which ensures that all work done in connection with this remedial action meets all applicable federal, State and local safety regulations for worker protection.

2. A transportation safety plan which ensures that the transport of any hazardous substances from the McColl site conforms to all applicable federal, State, and local hazardous waste transport requirements.

3. A site security plan which ensures that the site will be secured to prevent unauthorized access.

4. A quality assurance/quality control plan, including chain-of-custody procedures and both field and laboratory quality assurance/quality control procedures, to ensure that any sampling results are valid.

F. Respondent shall secure and maintain liability insurance to cover claims due to any release of hazardous substances in connection with the remedial action.

G. Respondent (or its contractors, as appropriate) shall furnish a performance bond in the amount of 100% of the cleanup costs which guarantees faithful performance and payment of all bills and obligations arising from performance of the remedial action.

Appendix D

0000286

State of California
Department of Health Services
Sacramento, California

Contract Documents for Construction of:

CONTRACT NO. 2 - EXCAVATION & REDISPOSAL
REMEDIAL ACTION - McCOLL SITE

Fullerton, California

October, 1983

Black & Veatch
Engineers · Architects

RADIAN
CORPORATION

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

McCOLL SUPERFUND SITE

Ground Water Remedial Investigation

Phase I

WORKPLAN GUIDELINES FOR INCLUSION

WITH THE

UNILATERAL ADMINISTRATIVE ORDER

1.0 Objective

The objective of this ground water remedial investigation is to gather high quality data sufficient to evaluate the environmental fate, and current and future impacts to human health and the environment from contaminants in the vadose zone and in ground water.

For the McColl site, the ground water remedial investigation (GWRI) will be conducted in three phases. Phase I is the subject of this conceptual workplan. Data gathered in Phase I will be used to develop Phase II. Conceptually, Phase II will involve installation of additional ground water monitoring wells at on and off-site locations determined on the basis of the stratigraphy and ground-water flow paths delineated in phase I. Phase III will consist of a long-term routine ground-water monitoring and the feasibility study for ground-water remediation.

2.0 Technical Approach

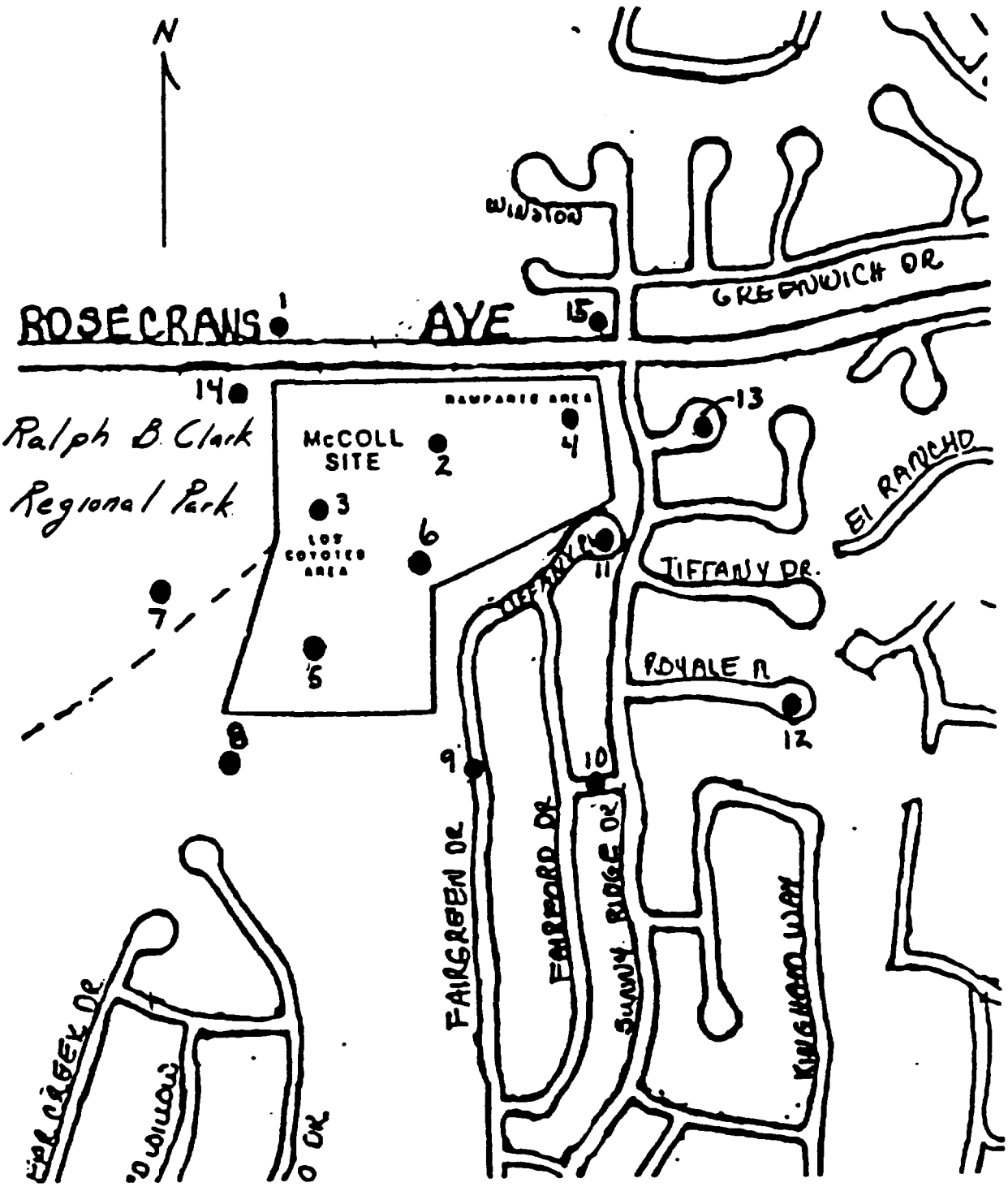
Phase I of the GWRI will involve drilling, logging, and sampling of 15 well clusters (Figure 1). If shallow (perched) ground water is encountered a well cluster will have three (3) depth-staggered single completion wells. If perched water is not encountered, then a well cluster would consist of two depth-staggered wells. Phase I will also include the sampling of existing wells. The Phase I scope of work will include the following tasks:

- o Review and compilation of historical and existing data;
- o Characterization of the site geology;
- o Characterization of geochemistry of soils and ground water;
- o Delineation of ground water flow paths and;
- o Characterization of aquifer parameters.

The general sequence of events for phase I activities is;

- o Drill continuously cored boring, geophysically log core hole;
- o Ream core hole and construct well. Drill and construct other wells in cluster;
- o Send selected core samples to laboratory for analysis;
- o Develop wells, conduct aquifer (slug) tests;
- o Sample wells.
- o Data compilation and analysis is ongoing throughout phase I.

FIGURE 1: Proposed Locations for Well Clusters



● Proposed Location of Piezometer Cluster

2.1 Compilation of Existing Data

Historical and existing data relevant to ground water conditions at the site and in the basin will be reviewed and evaluated. Contacts will be made with local water purveyors, Orange County Water District, the City of Fullerton, the RWQCB, and the DHS Public Water Supply Branch, and private well owners such as Chevron and Bastanchury Ranch Company to identify records relating to ground water use. In addition, state and local agencies, universities, and other appropriate entities will be contacted for historical air photos covering the area of at least one mile radially from the site.

2.2 Geology

Characterization of site geology will be accomplished through the use of continuous cored borings, supplemented by geophysical logging. One core boring will be done at each piezometer cluster location, for a total of 15 continuously cored borings. The minimum depth of the core borings will be 75 feet below the water table, which based upon current data, puts the target depth at about 325 feet below ground surface. All cores will be retained at an on-site repository for use in mineralogic, geochemical and geotechnical testing, well design, and calibration and correction of geophysical logs.

Coring will be done using the Christensen Mining Products 94 millimeter wireline core barrel system (punch core). When coring in the vadose zone, low-pressure (100 - 125 psi) filtered air will be used as the drilling fluid to aid in the identification of perched water zones and the water table. When coring below the water table, a water and nonbeneficiated bentonite mixture will be used as the drilling fluid. Upon completion of the coring, the borehole will be stabilized and conditioned in preparation for geophysical logging.

To aide the geologist(s) in the logging of the borehole, each drilling machine used in the GWRI will be equipped with a Bristol-type continuous penetration rate recorder. A Geolograph or Geolograph-type penetration rate recorder is not acceptable.

To supplement the boring program, each core hole will be geophysically logged. Geophysical logging will provide data on in situ bulk properties such as porosity, density, and moisture content. Geophysical logs that will be obtained are:

- Caliper
- Resistivity
- Spontaneous Potential
- Natural Gamma
- Gamma-Gamma
- Epithermal-Neutron

2.3 Geochemistry

2.3.1 Geochemistry of Geologic Media

Characterization of the chemistry of the geologic media will begin with the visual identification of mineral species during geologic logging of core samples. Based upon the geologic logs, representative samples will be selected for x-ray diffraction or differential thermal analysis. These analyses will permit rapid and accurate identification of mineral species (e.g. differentiate clays) to establish bulk chemistry. Specific analysis will then be done to determine abundance and availability of key ions that control geochemical processes (e.g. neutralization, sorption). All sampling and analysis methods will be approved by the Agencies, using EPA approved methods where appropriate.

2.3.2 Ground Water Geochemistry

Three groups of analytical parameters will be used in Phase I of the GWRI. The first group includes ionic species, the second group includes indicator parameters, and the third is radioisotope analyses which will be conducted on at least six (6) samples. Table 1 lists analyses to be conducted on ground-water samples. All sampling and analysis methods will be approved by the Agencies, using EPA approved methods where appropriate.

2.3.3 Water Quality Analysis

Initially all ground-water samples will have an expanded suite of analyses conducted. As the GWRI progresses, those samples subject to the expanded analysis may be reduced on the basis of ground-water flow direction and be limited to those wells that will provide samples that are most representative of up- and downgradient conditions. The additional analysis are listed in Table 1 under the heading Expanded Analysis. All sampling and analysis methods will be approved by the Agencies, using EPA approved methods where appropriate.

2.4 Ground-Water Flow Paths

Ground-water flow paths will be delineated using water level data from depth-staggered clusters of short-screened monitoring wells.

Fifteen (15) clusters will be installed during Phase I; their locations and numbers are shown in Figure 1. The clusters are located to complement existing installations and to provide data where none currently exists. Cluster locations may change as the GWRI proceeds.

Each cluster will be comprised of three depth-staggered wells, one into perched ground water and two into the regional aquifer. If perched ground water is not encountered then a cluster will have two depth-staggered wells in the regional aquifer.

The wells into the regional aquifer will positioned such that one well will straddle the water table, i.e., the water table bisects the well screen, and the other is positioned in the first permeable (non-aquitard) zone that is at least 50 feet below the water table.

TABLE 1. Analytical Parameters

Ionic Species

Al	Cr	Mn
As	Ni	Zn
Ca	Fe	SO_4
Mg	Pb	HCO_3
Na	Mo	NO_3
K	Se	SiO_2
Cl	Cd	

Indicator Parameters

TDS	Inorganic Carbon
VOC	Dissolved Oxygen
TOC/TOX	Alkalinity
COD	Eh/pH
DOC (Humic and Fulvic Acids)	

Expanded Analysis

Volatile Sulfur Compounds	GC-Hall
Purgeable Organics	GC-MS (8240)
Extractable Organics	(8250)
Non-target Organics	LC-MS

Specialty

^{3}H , ^{14}C

The configuration of a well cluster is illustrated in Figure 2.

Wells will be four-inch inside diameter, hybrid design with PVC casing from ground surface to ten (10) feet above the water table and the remainder of the well having stainless steel casing and screen. Well screens will be of the continuous slot (wire wrapped) design and be ten feet in length. Screens for water-table wells may be twenty (20) feet in length if existing data indicate that water table fluctuations warrant longer screens. Figure 3 illustrates a typical single well completion.

For each well, filter pack gradation will be based upon sieve analysis of core samples from the target zone, and well screen slot size will be determined by the filter pack gradation curve. Each well will be constructed in a separate borehole. All well design parameters will be approved by the Agencies.

2.5 Aquifer Parameters

For Phase I of the GWRI, both slug and pumping tests will be used to define aquifer parameters. Slug tests will be conducted prior to conducting pumping tests. Slug test data in conjunction with data from coring will be used to select the most appropriate location, design, and analytical method for an on-site pump test.

One slug test will be performed in each new well. Tests may be deleted if the results of coring and geophysical logging indicate that two wells are completed in very similar lithologies. Slug test data will be analyzed using the methodology developed by Bouwer and Rice (1976, 1989). Figure 4 is a schematic of the test apparatus and data recording system.

3.0 Health and Safety

The proposed field work is located in areas that based upon current knowledge are uncontaminated (clean). However, a health and safety plan incorporating the following will be developed and submitted for approval by the Agencies:

1) Prior to beginning field work, each drilling location will be checked for above ground hazards and buried utilities;
2) During field operations, level D protection will be the minimum level at all times;
3) During field operations, breathing zone and borehole real-time monitoring of SO_2, H_2S, HCl, and organic vapors will be conducted;
4) If levels above health standards are detected, work will cease and shall resume when field personnel upgrade to the appropriate higher level of protection.
5) Monitoring will continue at all times, regardless of level of protection.

The community safety plan developed in 1987 will be employed and incorporated as part of the health and safety plan for this project. The plan is attached as Appendix I.

FIGURE 2: Illustration of Well Cluster Profile

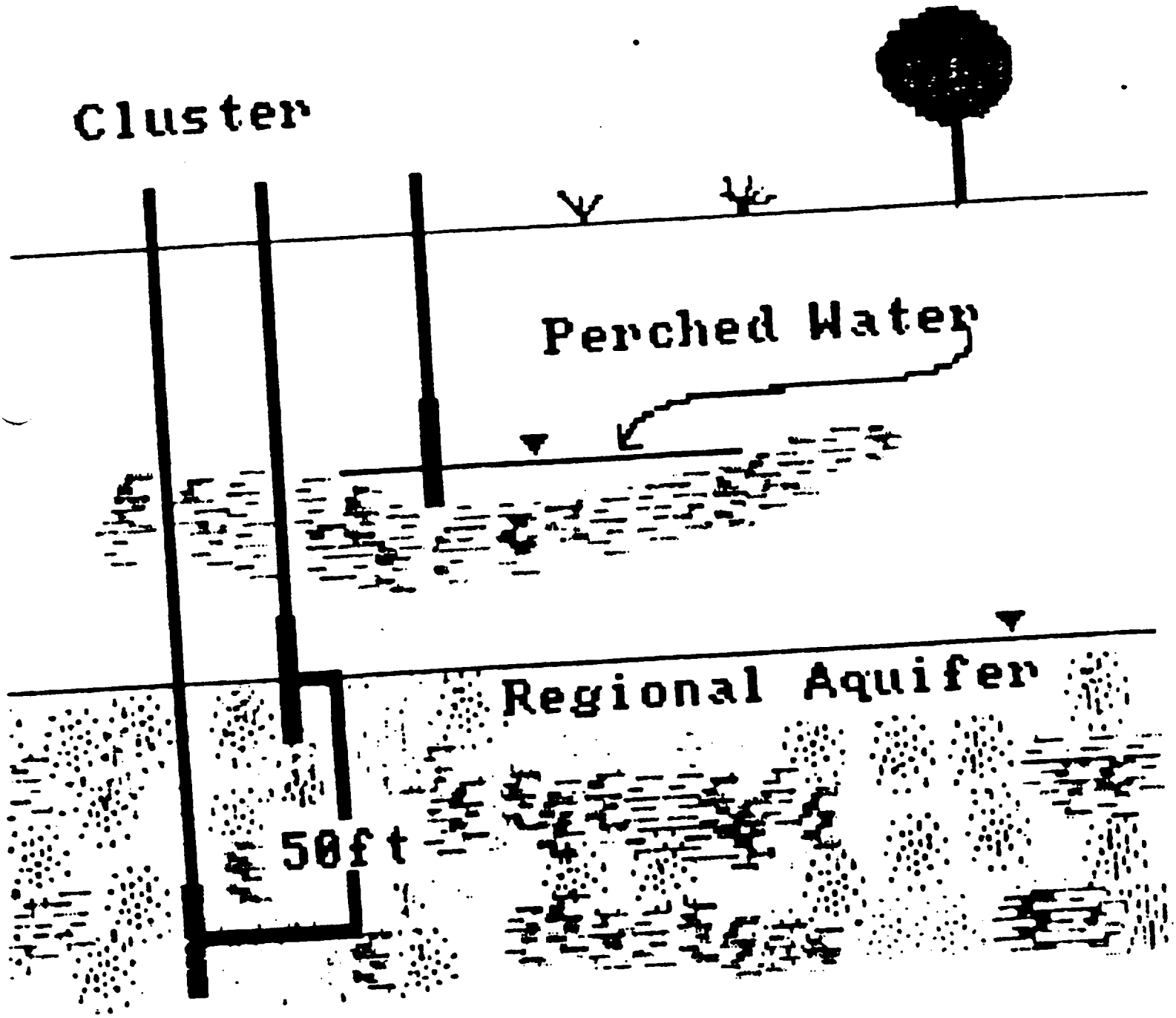


FIGURE 3: Illustration of Typical Well Completion

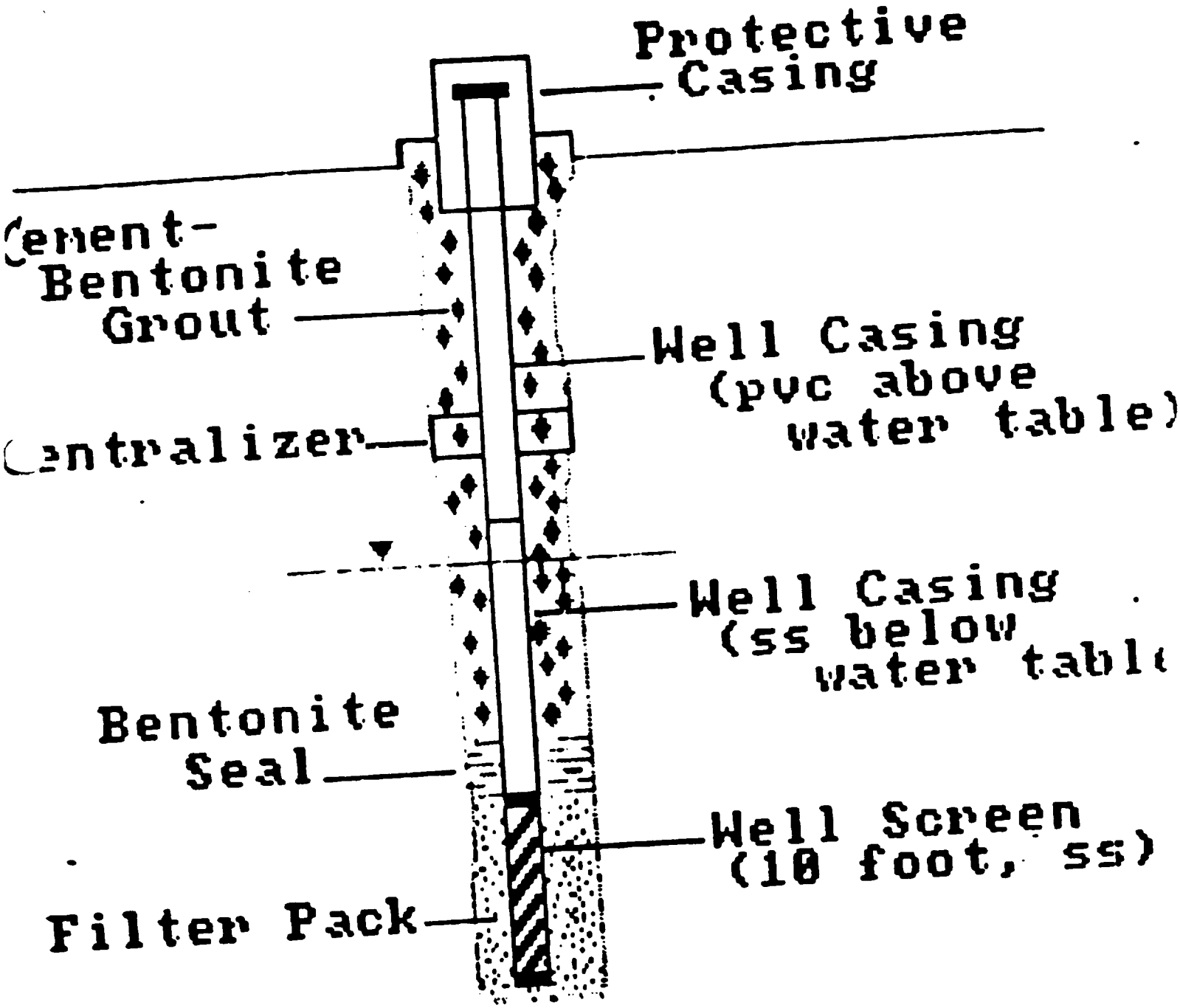
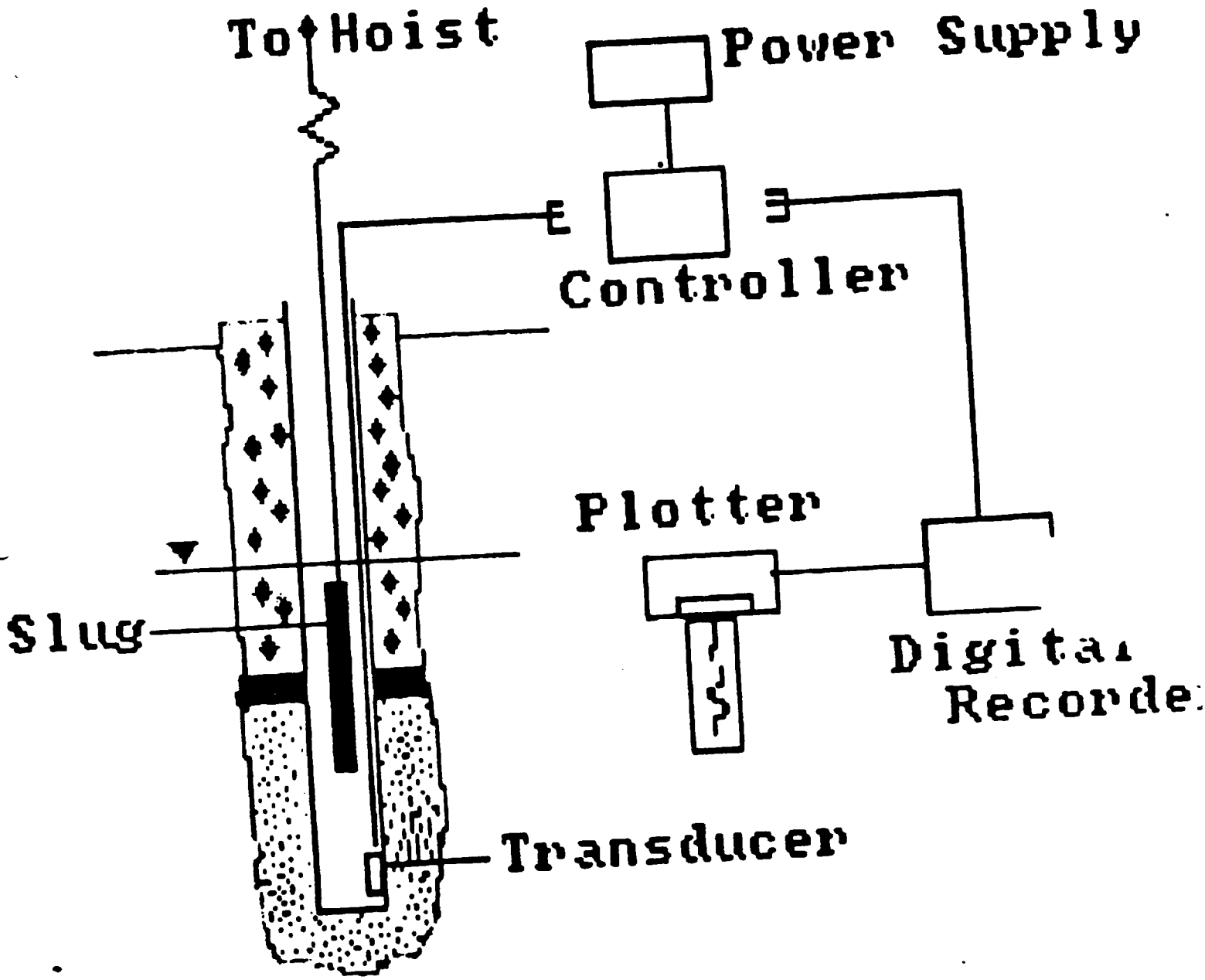


FIGURE 4: Illustration of Slug Testing Apparatus



4.0 Project Management

This workplan will be executed under the direction of the Environmental Protection Agency (EPA) with assistance from the California Department of Health Services (DHS) and EPA's alternative remedial contracting system (ARCS) contractors. Oversight of field work will be provided by the EPA project manager, who will make all final technical decisions regarding the implementation of this workplan. Access to existing wells, right-of-way to proposed drill sites, and obtaining all necessary permits will be the responsibility of the Potential Responsible Parties (PRPs). Compliance with all conditions of access and permits will be the responsibility of the PRPs.

All submittals to the EPA and the DHS will be signed by a California registered geologist (RG), including all documents discussed under Section 4.2 of this workplan. All field documents; drill logs, aquifer test records, "as-builts", daily drilling reports, etc., will be signed by the author and reviewed and signed by the RG. Corrections to field documents will be made by drawing a single line through the material to be deleted and the change neatly written above the deleted material.

Draft reports will be submitted to EPA and the Department for review and comment. Upon receipt of Agencies' comments and modifications, the PRPs will fully incorporate those comments and modifications and then submit the final document to EPA for review and approval. No documents will be released without consent from EPA.

4.1 Data Management

All data resulting from the execution of this workplan will be compiled on a data management system approved by the Agencies. All data will be submitted to EPA and DHS in hard copy form as well as on a computer disk formatted to the approved system.

4.2 Deliverables

The following documents will be submitted to EPA and DHS in draft(s) for review and comment and to EPA in final format for review and approval:

1) Ground water workplan- which will include but not limited to:

   a) Drilling and sampling methods, including logging procedures, drill log forms, management of drill cuttings, drilling mud, and produced water;

   b) Well design and construction methods, including field sieve analysis procedures and, filter pack and well screen design criteria;

   c) Aquifer test (slug and pumping) methodology and analytical approach.

   d) Decontamination procedures;

e) Quality assurance - quality control procedures for geophysical logging program, and for physical and chemical testing and analysis of soil and ground-water samples;

f) Data compilation and reporting methods;

g) Health and safety procedures;

h) Schedule for Phase I.

2) Sampling and Analysis Plan. All sampling and analysis will be conducted in accordance with approved EPA and/or DHS methods. If an approved method does not exist or a deviation is requested, detailed information must be provided on the alternate sampling or analytical method.

3) Quality Assurance/Quality Control Plan.

4) Health and Safety Plan.

5) Bi-weekly field reports submitted in accordance with the requirements under Section 4.0 and containing the following:

a) field drill logs;
b) daily drilling reports;
c) well completion records and "as-builts";
d) field and corrected copies of geophysical logs;
e) field records of all aquifer test data and;
f) Non QA/QC data packages for all chemical analyses.

6) Monthly progress reports. Summary form of findings, results, and progress for each 30-day period.

7) QA/QC Data Analysis report.

8) Phase I GWRI report.

9) Proposal for conceptual approach for Phase II of the GWRI.

4.3 Schedule

Within 45 calendar days of the effective date of the Administrative Order, a draft of the GWRI, Phase I Workplan and resumes of the field staff and project managers, including the registered geologist will be delivered to the Agencies. Thirty (30) calendar days after approval of the final Phase I workplan and proposed personnel, the Health and Safety (H&S), Sampling and Analysis (S&A), and Quality Assurance-Quality Control (QA/QC) plans will be delivered to the Agencies. Field work will commence within 15 calendar days after approval of the H&S, S&A, QA/QC plans.

Figure 5 presents the proposed schedule for those tasks that will occur following approval of the above stated plans. Deviations in draft workplans from the schedule shown in Figure 5 shall be

explained in a separate justification accompanying the workplan. Well cluster numbers cited in Figure 5 correspond to the cluster numbers shown in Figure 1.

McColl Project: GWRI; Phase I, Schedule

FIGURE 5

WK	Well Cluster	Geop. Log.	Well Dev.	Slug Tests	Pump Test	Well Samp.	Field Repts.	Monthly Repts.	S&A Repts.	QA/QC Repts.	Draft GWRI	Final GWRI	Phase II Proposal
1						X							
2	(1)	X											
3			X	X									
4	(2)	X					X						
5			X	X									
6	(3)	X					X						
7			X	X									
8	(4)	X					X	X					
9			X	X									
10	(5)	X					X						
11			X	X					X				
12	(6)	X					X	X		X			
13			X	X									
14	(7)	X					X						
15			X	X									
16	(8)	X					X	X					
17			X	X									
18	(9)	X					X						
19			X	X									
20	(10)	X					X	X					
21			X	X									
22	(11)	X					X						
23			X	X									
24	(12)	X					X	X					
25			X	X									
26	(13)	X				X	X						
27			X	X									
28	(14)	X					X	X					
29			X	X	X								
30	(15)	X					X						
31			X	X									
32							X	X					
33													
34													
35													
36													
37									X				
38										X			
39											X		
40													
41													
42												X	X

SITE SECURITY

Section 4

Statement of Work

4.0 Introduction

The purpose of this contract is to provide one unarmed security guard for each 8-hour shift, twenty-four (24) hours per day, seven days a week, including Saturdays, Sundays and legal holidays at the McColl Hazardous Waste Site. No employee of the Contractor shall work more than one eight-hour shift per day. Security guards shall not start a shift at the McColl Site within 16 hours of completion of any prior assignment. The Contractor shall also provide a medical monitoring program for personnel under this contract assigned to the McColl Site. Contractor personnel will be required to attend an orientation regarding the site guard duties provided by the DHS, which will be approximately two (2) hours in length before beginning work at the Site.

The McColl Hazardous Waste Site is located at the intersection of Sunnyridge and Rosecrans Avenues in the City of Fullerton, Orange County, California. The Site was used for the disposal of acidic petroleum refinery sludge. The sludge was disposed of in twelve sumps, six in the Ramparts area and six in the Los Coyotes area. The California Department of Health Services (DHS) is the lead agency responsible for the McColl remedial action program and works closely with the Environmental Protection Agency (EPA) under a Cooperative Agreement.

The Site is divided into 1) the Support Area, 2) Los Coyotes Area, and 3) Ramparts Area (See Exhibit 4-A). For the security guard purposes, the Exclusion Area (See Exhibit 4-A) will be reduced and limited to the immediate area of the sumps, any exposed seep, and the hazardous storage area. These designations will be used only while no cleanup activities such as seep excavation, covering and removal, are being undertaken. Only persons authorized by DHS and EPA, properly trained and wearing proper protective clothing will be allowed to enter the Exclusion Area (except for emergency personnel representing the fire department, and police department).

Workers will be instructed as to the hazards they may encounter in the exclusion area. Instructor provided by DHS will ensure that contractor employees are familiar with the site and specifically the exclusion area, non-exclusion area, and appropriate procedures required for working in each area. Site familiarity training will be provided by DHS for all workers

4.1 Site Description

The McColl Hazardous Waste Site is an uncontrolled hazardous waste site located in the northwest section of the City of Fullerton, Orange County, California. The site is divided into three distinct areas, namely; the Support Area, Ramparts Area and Los Coyotes Area. The Ramparts and the Los Coyotes Areas have six waste sumps each. The Los Coyotes Area was an active golf course until 1984, and the Ramparts Area was vacant land. Housing developments border the east and south. The West Coyote Hills Oil Field and housing tracts lie to the north. The entire site is fenced along the perimeter, and access to the site is limited through the gate situated along Rosecrans Avenue.

4.2 Support Area and Other Areas

The decontamination trailer, the administrative office and parking area, truck scale, trailer staging area, tractor parking, clean equipment maintenance area, and the security guardhouse are located in the Support Area. Access to and from the Support Area will be controlled by the 24-hour on-duty guard at the entrance gate. The Support Area is separated from the Ramparts and Los Coyotes Areas by a fence. Everyone must secure permission from DHS and EPA to enter the Ramparts and Los Coyotes Areas, and must be accompanied by a DHS or EPA staff member, until they get familiar with the site.

4.3 Exclusion Area

As originally planned for the McColl Hazardous Waste Site, the Exclusion Area covers the entire Ramparts and Los Coyotes Areas. Only persons authorized by DHS and EPA will be permitted in this area. Some hazards exists in the Ramparts and Los Coyotes Areas, so precautionary measures and care should be taken when working near or driving over the seeps, well heads, and bench marks. These areas may be unmarked and will be pointed out during the orientation period.

For guard service operations, the Exclusion Area will be reduced and limited to the immediate area around the twelve sumps, any exposed seep, and the hazardous waste storage area. Such designation will be valid only while no cleanup activities such as seep excavation, covering, and removal are being undertaken. The South Coast Air Quality Management District (SCAQMD) has analyzed emissions from a large bleed from a seep, which can be considered as "a worst case situation for undisturbed area". No readings were observed at distances greater than four feet away from the large bleed and 5 1/2 feet above ground, downwind of the

bleed. Workers will be instructed and trained to avoid any direct physical contact and exposure with the hazardous waste materials and provisions will be made for adequate worker protection from the toxic emissions.

4.4 Security Guard's Health Risk Assessment

The security personnel will be working in the Support Area only. They will not be entering the Exclusion Area as defined in Section 4.3. Potential for exposure to respiratory or dermal hazards in the Support Area is expected to be low. Respiratory or dermal protective equipment, clothing, and personnel decontamination are not required since the security personnel will be working only in the Support Area. The Security Guard shall not touch waste under any circumstances. Heat stress should not pose a significant problem because physical activity will be minimal. Noise and safety hazards are not anticipated to be a problem since the security personnel will not be working near any excavation or moving equipment.

4.5 Security Guard Duties

The Security Guard shall be responsible for maintaining the security of the McColl Hazardous Waste Site, performing the following duties.

A. Control Site Access

The Security Guard shall limit access to those individuals or agency representatives which the Engineer, or designee, has identified as having legitimate business at the Site. The Engineer, or designee, will specify whether an individual is authorized to enter the Support Area only or the Support Area and the Exclusion Area. In the event of any unauthorized person attempting to gain access tc the Site, they shall be denied access by the Security Guard until proper authorization is given by the Engineer, or designee.

The Security Guard shall not leave the guard house unattended in excess of fifteen (15) minutes, or thirty (30) minutes if walking the Site, except in the case of emergencies. The Site main access gate shall be locked when left unattended for any reason. The Security Guard shall leave a sign at the gate indicating that on-duty security guard is temporarily away from the gate and will be back in 15 minutes. The sign shall be at least 2' X 2' with letters at least of 2" size and printed with red paint over white background.

B. Unauthorized Persons in the Support Area

In the event of unauthorized person(s) penetrating the Support Area of the Site, the Security Guard shall approach the intruder and attempt to obtain the motive of intruder. In the case of trespass, the intruder shall be told to leave the Site and shall be escorted to the main gate. If vandalism is involved, the Security Guard shall notify local law enforcement authorities and attempt to detain the party/parties involved until the law enforcement authorities arrive. The Security Guard shall carry no firearms, but may be equipped with a night stick and mace. Should vandalism result in equipment or facility damage requiring emergency response, the Security Guard shall notify the proper agencies and authorities as required. See Section 4.11, Emergency Telephone Numbers, for a list of the proper emergency response agencies and authorities.

C. Unauthorized Persons in the Exclusion Area

In the event of unauthorized person(s) penetrating the Exclusion Area of the Site, the Security Guard shall stay in the Support Area and warn (use megaphone if required) the intruder about the waste and order him to leave the area immediately. Once the intruder is out of the Exclusion Area, the Security Guard shall attempt to approach him and obtain the motive and identity of the intruder and escort him to the gate. If the intruder does not exit the Exclusion Area or vandalism is involved or both, the Security Guard shall call the local law enforcement authorities and fire department (for respirator) for appropriate action. See Section 4.11 Emergency Telephone Numbers, for a list of proper emergency response agencies and authorities. The security personnel are not authorized to enter the Exclusion Area of the Site.

D. Daily Log

A daily log shall be maintained at the site and shall be made available to the Engineer, or Contract Manager, or designee upon demand and will become the property of the Department upon termination of this contract. The daily log shall consists of at least date, time-in, time-out, name, signature, title, company, purpose, vehicle license number, authorization and any unusual occurrences. The format of the daily log will be approved by the Department.

4.6 Site Boundary Inspection

The perimeter site fence shall be inspected for damage at least every four (4) hours. The Security Guard shall notify the Engineer, or designee, by telephone of any damage to the perimeter fence as soon as possible but no later than one State working day after discovery of such damage. The Department of Health Services will provide corrective repairs of, or replacement of, fencing, gates, or signs as warranted.

4.7 Hazardous Gas or Material Release

In the event the Security Guard smells unusual odors or nearby residents complain of odors, or the Security Guard/nearby residents happen to notice any seepage of black tarlike substance in the Exclusion Area, the Security Guard shall immediately notify the Engineer, or designee, for appropriate action. The Security Guard is not authorized to undertake any corrective action or enter into the Exclusion Area or both.

4.8 Support Facilities Inspection

The Security Guard shall visually inspect the support facilities for any external damage at an interval of at least every four hours. Security Guard shall notify immediately the Engineer, or designee, if support facilities are damaged. The support facilities at the McColl Hazardous Waste Site are those facilities located in the Support Area including, but not limited to, two office trailers, steam cleaners, weigh scales, and power house.

4.9 Equipment, Materials and Facilities

A. Equipment and Materials

The Contractor shall ensure that all Security Guards are properly uniformed and equipped according to the requirements stated herein for the term of the contract.

The Contractor shall provide and maintain at least the following equipment for Security Guards:

- Generally recognizable security guard uniform;
- Bootie Covers (See Exhibit 2-B, Health and Safety Plan)
- 7 - 15 X 35 zoom binoculars;
- Battery operated megaphone;

- o Daily log register (see Section 4.5,D);
- o Shift report record book (see Section 4.10);
- o Flashlight (6 volt lantern minimum);
- o General office supplies; and
- o Restroom supplies.

B. Facilities and Maintenance

- o The State will provide and maintain a guard house and a site office trailer which contains toilet facilities and a telephone. The telephone is available for official use only. The Contractor shall be responsible for any misuse or mishandling of equipment by its employees, including long distance or toll telephone charges resulting from calls by the Contractor's personnel not related to the provision of services under this contract. The Security Guard shall log all telephone calls with time, purpose and party. The telephone log shall be available at all times for review by the State and remain the property of the State.

  The State is responsible for the provision of power and water services for the facilities.

- o The State will provide one fully equipped First Aid Kit and one 20 pound fire extinguisher during the term of the contract. The Contractor shall refill the First Aid Kit supplies as the items are used. The First Aid Kit shall be inspected and replenished at least monthly. The Contractor shall service the 20 pound Fire Extinguisher on a monthly basis or at more frequent intervals when circumstances require, such as recharging or repairing the extinguisher.

4.10 Shift Report and Incident Report

The Security Guard shall prepare a handwritten shift report of all activities occurring during his/her shift pertaining to site security. The shift report shall be prepared in ink and completed by the end of each shift. The shift report shall be maintained at the Site and made available to the Engineer, or designee, upon demand and shall be the property of DHS. The shift report shall be prepared on a hard bound record book with numbered pages.

Whenever an incident or emergency occurs at the Site that requires the Security Guard to call local law enforcement authorities, or the fire department, or the Engineer, the Security Guard shall complete an Incident Report Form, Exhibit 4-B, and send it to the Engineer via first class mail within four (4) hours of the incident.

4.11 Emergency Telephone Numbers

Contractor shall maintain and post at the work site a current, accurate listing of the emergency telephone numbers for at least the following:

Medical Emergency	911

Unauthorized Entry Call:

1. Fullerton Police	- Emergency	911
2. Fullerton Fire Dept.	- Emergency	911
3. California State Police	-Santa Ana Field Office	(714) 588-4194

Emergency such as hazardous waste release or non-emergency, such as fence damage, or any emergency that threatens the public health or safety:

Engineers

Barry Blodgett, Project Engineer
DHS, Southern California Section
107 South Broadway
Los Angeles, CA 90012
(213) 620-3029

Jan Meyer
Stringfellow/McColl
Project Team
DHS, TSCD Headquarters
714/744 P Street
P O Box 942732
Sacramento, CA 94234-7320
(916) 323-3283

---End of Statement of Work---

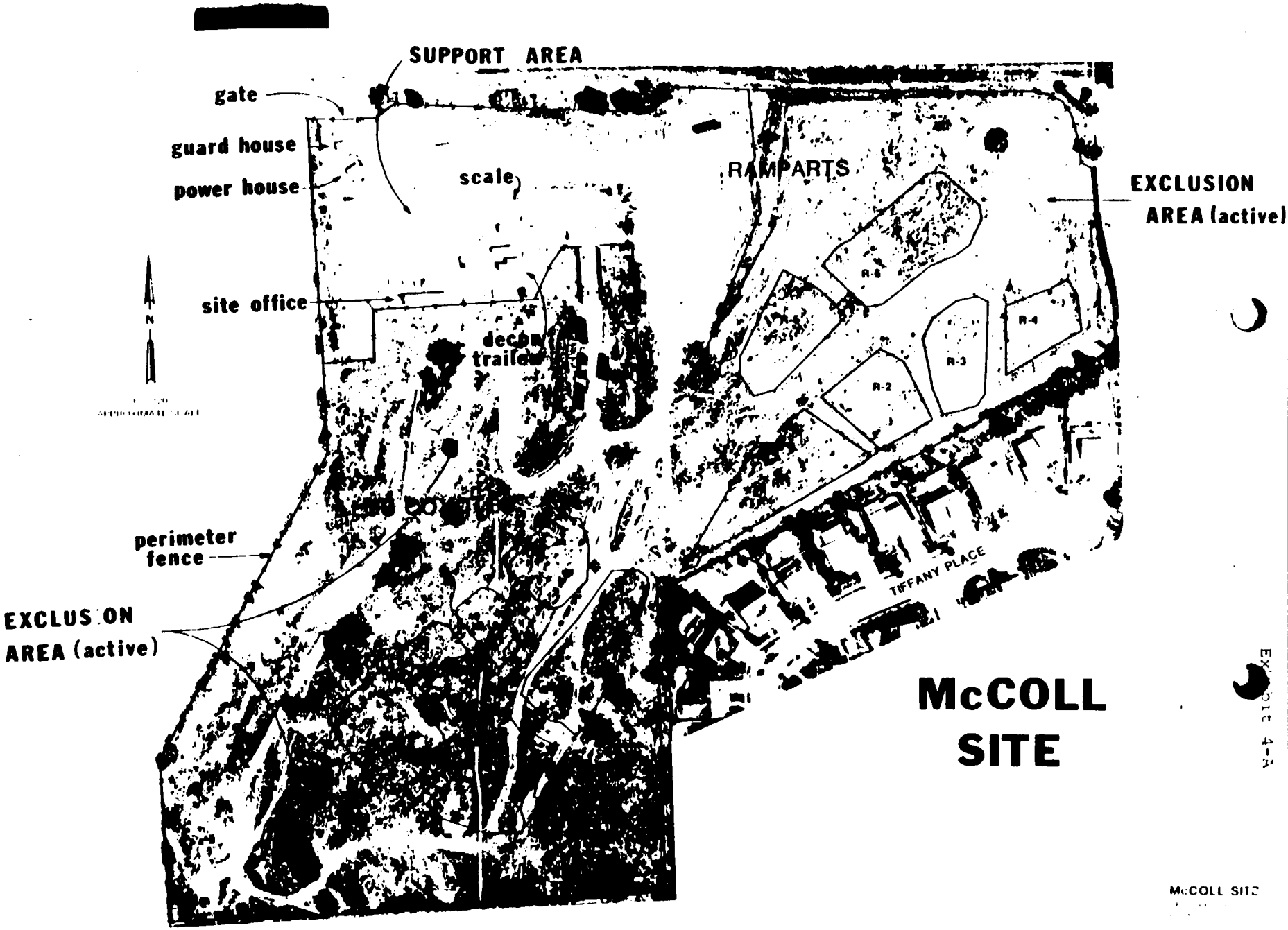

SUPPORT AREA
gate
guard house
power house
scale
RAMPARTS
EXCLUSION AREA (active)
site office
N
decon trailer
R-5
R-4
R-3
R-2
perimeter fence
EXCLUSION AREA (active)
TIFFANY PLACE
McCOLL SITE

EXHIBIT 4-B

MCCOLL HAZARDOUS WASTE SITE

INCIDENT REPORT FORM

Incident Date: Incident Time:

Incident Description
(What and How it Occurred, if Known

Time Noticed

Action Taken With Time

Signed by:_____

Print Name:_____

Report Completed

Date and Time:_____

INSTRUCTIONS: Complete all sections of the report per Section 4.10. Use additional pages if needed. Send via first class mail within four (4) hours of the incident to Engineer at the following address: Department of Health Services, Toxic Substances Control Division, Stringfellow/McColl Project Team, 714/744 P Street, P.O. Box 942732, Sacramento, CA 94234-7320.

Exhibit -2B

- F I N A L -

McCOLL HEALTH AND SAFETY PLAN FOR GUARD SERVICE AND SITE MAINTENANCE

FULLERTON, CALIFORNIA

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Toxic Substances Control Division
McColl Project Team

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Health and Safety Plan
McColl Superfund Site

I. INTRODUCTION

The California Department of Health Services (DHS) is the lead agency responsible for the remedial action program at the McColl site, and works closely with the U.S. Environmental Protection Agency (EPA), Region IX, under a cooperative agreement. Occasionally, DHS or EPA will acquire the services of a contractor to perform site maintenance and guard services.

II. PURPOSE OF HEALTH AND SAFETY PLAN

The purpose of the Site Maintenance and Site Security Health and Safety Plan is to define and present the work practices, protective clothing and equipment required, the specific responsibility of the employee, training programs, and the decontamination procedures necessary while working at the site. While the site maintenance and site security tasks are non-hazardous as described herein, there is potential for exposure to the hazardous waste found in the Exclusion Area of the site. Before starting work, workers must receive proper training in health and safety practices, as well as risk identification and avoidance training. In addition adequate protective clothing and equipment may also be required as conditions indicate.

This Health and Safety Plan is specifically designed for implementation and use while doing the site maintenance and security work described in Section III, below. A copy of this plan shall be posted in the office trailer.

III. CONTRACT SERVICES

The size of the tasks, as well as the frequency of need can vary; some are needed at a regular schedule, while some are required only occasionally. Workers assigned tasks under this contract shall not work with seep materials or other materials which are considered hazardous. The following are brief descriptions of the tasks to be performed by McColl contractors at the direction of DHS. All tasks are designated as non-hazardous and do not require additional precautions for working with hazardous waste:

Janitorial Services - The various trailers and offices require regular maintenance such as cleaning of the floors, desks, windows, and toilet; picking up of the trash and litter on the grounds; the regular pickup of trash bins; and other janitorial services as required. Janitorial activities will not place the workers at excess risk.

Weed Removal - The weeds and bushes at the site become occasionally overgrown and dried, necessitating removal in order to prevent fire hazard during summer months. Power

mowers and manually operated "weed eaters" are used to clear the site. The dried weeds and debris are disposed of in an authorized landfill. Weed removal activities will be generally directed by DHS representatives so as to ensure that the workers are not exposed to risk beyond that risk normally encountered as part of their routine duties. Situations which require additional precautions will be addressed in the required personal protective equipment section. Workers will use appropriate levels of protective equipment when required or as conditions dictate.

Engineering Work - Tasks such as surveying, marking of monitor wells and sump areas, grading, and repair of roadway are undertaken at the site from time to time. Engineering work activities will be performed under prescribed conditions with workers using appropriate levels of protective equipment when required, or as conditions dictate. Engineering work will be generally directed by DHS representatives so as to ensure that the workers are not exposed to risk beyond those risks normally encountered as part of their routine duties.

Repair Work on Facilities or Equipment - Repair work on the monitoring equipment, power system, lights, fences, water lines, trailers, phone, etc., may be required to put them back into good operating condition. Repair work will be performed under prescribed conditions with workers using appropriate levels of protective equipment when required, or as conditions dictate. Repair work will be generally directed by DHS representatives so as to ensure that the workers are not exposed to risk beyond those risks normally encountered as part of their routine duties.

Septic Tank Pumping - The wastewater from the office and employee decontamination (shower room) trailer are collected in an underground tank and required regular pumping and disposal by vacuum truck. Removal of septic tank contents will be generally directed by DHS representatives so as to ensure that the workers are not exposed to risk beyond those risks normally encountered as part of their routine duties.

IV. PERSONNEL HEALTH AND SAFETY TRAINING PROGRAM

A training program to provide the proper training on health and safety matters to employees and workers at the McColl site shall be developed. There will be two levels of training provided and should be given by a qualified person.

At the start of the site security and site maintenance tasks, approximately one to two hours of orientation or briefing shall be provided by DHS. This short training shall include a presentation of: 1) the hazards on-site, 2)

the health hazards associated with the site, and 3) general safety practices (Section V). Contractor employees are responsible for the proper application of the knowledge gained in the training courses. The DHS Project Engineer will walk the site with the workers to identify where seeps and other potential hazards are located.

Any required training beyond the above-mentioned site familiarization will be provided by the contractor. Employees of contractors and subcontractors will not be allowed within the Exclusion Area without fully completing the required DHS training.

Employees required to perform tasks within the Exclusion Area will be trained on the potential hazards to be encountered and provided the opportunity to wear any and all protective equipment during a training session in a non-hazardous environment. Staff will be oriented on-site as to where the hazardous seep areas are versus non-hazardous areas. This will enable workers to identify those potentially hazardous areas and to select and wear appropriate levels of protective equipment.

V. GENERAL SAFETY

It is important to provide for the safety of all on-site workers. All the equipment necessary to meet safe operating practices and procedures must be provided. All general safety guidelines and procedures will conform to:

- Title 8, California Administrative Code, Chapter 4
- Interim Standard Operating Safety Guides (U.S. EPA, September, 1982, draft)
- U.S. EPA Occupational Health and Safety Manual
- Department of Labor, Occupational Safety and Health Administration, 29 CFR, Part 1910

Copies of the above identified guidelines and regulations are available for review at the DHS office trailer at the McColl site.

In order to conform with all the applicable government regulations, the following will be provided by DHS or the Contractor, as specified:

- Emergency eye wash stations (DHS)
- First Aid station (DHS)

- Drinking water and rest stations (DHS)
- Identification and delineation of hazardous work zones (DHS/Contractor)
- A, B, C 20-lb fire extinguisher (DHS)
- Perimeter warning signs (DHS)
- Decontamination facilities (DHS)
- Identification of hard hat zones (DHS/Contractor)
- Identification of work zones for various operational activities (DHS/Contractor)
- Sanitation facilities (DHS)
- Emergency response plans (DHS)

McColl General Safe Work Practices

The following work practices will be implemented at the McColl site for the worker's safety:

- Eating, drinking, chewing gum or tobacco, and smoking will be allowed only within the support area.
- There will be no "horse play" on the site. Employees reporting for work who appear to be under the influence of alcohol, controlled substances, or are otherwise incapacitated will not be permitted on the site. The Project Engineer's judgement is final regarding these matters.
- Wash facilities will be utilized by workers in the decontamination trailer before eating, drinking, or use of the toilet facilities.
- Shower facilities in the decontamination trailer will be utilized during end of work shift decontamination procedures.
- Containers will be labeled to identify them as waste, debris, or contaminated clothing.
- Eyewash station(s) will be located in the decontamination trailer for use in case of accidental splash or contact with waste material.
- Personnel at the McColl site will use the "buddy system" when wearing any respiratory protective

equipment. Communication between members will be maintained at all times. Visual contact will be maintained between "pairs" on-site, and each team will remain in close proximity to assist each other in case of emergencies.

- When respirators are required, no facial hair which interferes with a satisfactory fit of the mask-to-face seal will be allowed. (No beards, large mustaches, or long sideburns).

- Contact lenses will not be allowed when respirators are worn. Eyeglasses can be worn if they will not interfere with the facepiece to face seal.

- All respiratory protection selection, use, and maintenance will meet the requirements of established procedures, recognized consensus standards [American Industrial Hygiene Association (AIHA), American National Standards Institute (ANSI), Mine Safety & Health Administration (MSHA), and National Industrial Occupational Safety and Health (NIOSH)], and will comply in all respects to the requirements set forth in Title 8, CAC, General Industry Safety Orders (GISO), Section 5144.

- A sufficient number of multi-purpose portable fire extinguishers will be located at the site trailer.

VI. HAZARD EVALUATION

Respiratory hazards are created by the dust, vapors, and gases released during excavation and other waste disturbing activities. Of primary concern is elevated levels of sulfur dioxide (SO2), benzene, and other organic sulfur compounds. Since no excavation will occur it is unlikely that airborne hazards will be encountered by the contractor.

Contractors shall review the requirements for implementation of an accident prevention program. Health and safety related standards are considerable. Contractors are advised to contact their worker compensation carrier for basic assistance and guidance. Additional information can be obtained from the DHS Health and Safety Officer.

From a health perspective, industrial hygiene standards prescribe acceptable methods and exposure criteria. Hazard recognition, evaluation, and control are three objectives by which an industrial hygienist implements an effective exposure reduction program. Hazard recognition and evaluation are performed by the industrial hygienist to determine the likelihood and extent of occupational

exposures workers receive during their course of employment.

The extent of exposure implies the taking of industrial hygiene measurements and then comparing these measurements against acceptable standards. Acceptable standards include those chemical criteria or Permissible Exposure Levels (PEL).

A PEL is that concentration of material to which it is believed a worker could be exposed up to eight hours per day for forty hours per week. Usually PELs are expressed in parts per million per parts of air, milligrams per cubic meter of air, or fibers per cubic centimeter.

An employee's exposure shall be limited in accordance with the requirements put forth in regulation. When employee exposures cannot be limited by engineering control (ventilators, etc.), then work practices, administration, or personal protection equipment shall be used to limit or reduce consequent exposures to below the PEL.

It is not anticipated that workers will be exposed to materials in excess of the PELs while performing tasks which are described in this contract.

Sulfur Dioxide (SO_2) is a colorless gas or liquid with a sharp, pungent odor. It is soluble in water, alcohol, and ether. It is noncombustible. SO_2 is toxic by inhalation and is a strong irritant to eyes, nose, and throat. The PEL for SO_2 is 2.0 ppm. Slight increases in breathing resistance have been reported for 1 out of 11 human subjects exposed to 1.0 ppm. Chronic exposures cause changes in lung physiology. Although SO_2 has not been found to be carcinogenic, it might act as a cancer promoter. Workers in smelters who are exposed to both SO_2 and Arsenic (As) have higher cancer rates than workers exposed to As along.

Typical background (undisturbed) ambient concentration of SO_2 typically measured at McColl average 0.012 ppm in a 24 hour period. This value is less than the PEL. It is unlikely that workers assigned tasks under this contract would be exposed to higher concentrations.

Cutaneous exposures to acid dust or sulfuric acid (hydrogenated sulfur dioxide) would not be routinely encountered by workers assigned to tasks under this contract.

Arsenic (As) is highly toxic by ingestion and inhalation. It is a known carcinogen of the skin and perhaps, of the bronchi. The OSHA standard for employee exposure is 10.0 micrograms (mg) per cubic meter of air. The ACGIH TLV is

0.2 mg per cubic meter. The chief symptoms of overexposure are dermatitis and respiratory system irritation.

Employees assigned to tasks under this contract would not experience excessive exposures to arsenic while working on this site. Previous industrial hygiene surveys of other hazardous waste sites where arsenic is present (10,000 ppm) indicated less than detectable levels in their breathing zone of exposed workers.

Two factors exist at McColl which reduce worker risk: 1) deposits of arsenic salts are limited to specific locations (Ramparts No. 1), and 2) concentrations of arsenic are low (less than 1%). Furthermore, there is no heating of the arsenic materials to temperatures greater than 900° F which would cause vaporization of the arsenic metal.

Cutaneous exposure and ingestion will be eliminated when required by use of personal protective clothing and cleanup of potentially exposed body parts with soap and water. It is unlikely that cutaneous exposures will occur.

Benzene is flammable and explosive. It is moderately toxic by ingestion, inhalation, and skin absorption. The TLV is 10.0 ppm. It is a suspect carcinogen, associated with leukemia. Overexposure is associated with blood changes, including aplastic anemia, chromosomal aberrations, and narcotic effects. OSHA is currently considering reducing the 8 hour PEL to 1.0 ppm.

Airborne concentrations of benzene anticipated to be encountered at McColl would not be in excess of the PEL. Readings from a calibrated Century organic vapor analyzer (OVA) ranged from 0 to 1.5 ppm total organic vapor in the breathing zone of workers while they engaged in repair of seeps.

Workers assigned to tasks under this contract would not be expected to receive exposures higher than 1.5 ppm, but rather considerably less. Factors which would be considered in the risk estimate include: 1) employees would not be engaged in repair of seeps or other site disturbance activities, 2) employees would be working for less than 8 hours on-site. Thus, the time weighted average exposure would be less.

Cutaneous absorption of organics, including benzene, are not anticipated for employees assigned to perform tasks under this contract.

Toluene is a colorless aromatic liquid and its toxicological properties resemble benzene, except for the chronic effects

on blood formation. Repeated small doses can cause headaches, nausea, eye irritation, loss of appetite, bad taste, lassitude and impairment of coordination and reaction time. The PEL for toluene is 200 ppm.

Airborne concentrations of toluene anticipated to be encountered at McColl would not be in excess of the PEL. Historical documentation of airborne organic vapor concentrations which include toluene, indicate that the combined vapor concentration was 1.5 ppm. Workers assigned to tasks under this contract would not be expected to receive exposures higher than this PEL, but considerable less. Factors which are considered in this risk estimate include: 1) employees would not be engaged in repair of seeps or other site disturbance activities, 2) employees would have reduced exposure times at any one specific location on-site, thus reducing their occupational exposure.

Cutaneous absorption of toluene is not anticipated for employees assigned to perform tasks under this contract.

Xylenes are generally toxic. They cause mild skin irritation and are a human eye irritant. The PEL for xylene is 100 ppm.

Airborne concentrations of xylene anticipated to be encountered at McColl would not be in excess of the PEL. Historical documentation of airborne organic vapor which includes xylene, indicate that the combined concentration was 1.5 ppm.

Workers assigned to perform tasks under this contract would not be expected to receive exposures higher than the PEL, but considerably less.

Dust generated by soil disturbance activities may present inhalation and/or dermal problems. Wetting techniques may be used to control and reduce dust. Dust control, dermal protection (Tyvek coveralls), respiratory protection (Level C), and strict adherence to decontamination procedures should protect workers if dust is liberated during any field activities.

If nuisance dust (PEL = 10 micrograms per cubic meter of air) appears to be a problem then appropriate engineering controls, or work practice controls will be implemented to prevent excessive exposures to nuisance dust. It is not expected that workers would be exposed to excessive nuisance dust while performing tasks as described under this contract.

Physical/Chemical Hazards (Seeps). Seeps are eruptions of asphaltic waste which result in black tar-like ooze (bleed), pushing up through the soil surface. Physical hazards may include stepping on the ooze, skin contact with ooze, or contact with protective clothing.

Chemical hazards include gas and vapor emissions released from the seep. The gases and vapors commonly encountered have been described.

Workers assigned tasks under this contract shall not work with the seep material. Workers shall be trained on what a seep looks like, and to avoid contact with this material. In general, workers must be trained on the specific areas which are "off-limits" at the McColl site. Most of this hazardous waste includes:

1) viscous, black, tar-like waste
2) gray sludge-like material
3) hard asphaltic waste
4) mixtures of the above

Workers shall be trained on the hazards they may encounter and appropriate methods for avoiding contact with these wastes. If workers must walk in areas where waste may occur, appropriate boot covers shall be worn. If there is the potential for workers to have hand contact with the waste, then appropriate hand protection must be worn. It is not anticipated that workers will be exposed to physical or chemical hazards while performing tasks described under this contract.

Heat stress is the total heat load imposed on the body. Environmental and physical factors constitute the major elements of heat stress during field work, and may manifest into one of the following heat disorders:

- Heat cramps -- Painful intermittent spasms of the voluntary muscles following hard physical work in a hot environment.

- Heat exhaustion -- Profuse sweating, weakness, rapid pulse, dizziness, nausea, and headache. The skin is cool and sometimes pale and clammy with sweat.

- Heat stroke -- Sweating is diminished or absent. The skin is hot, dry, and flushed. Increased body temperature which, if uncontrolled, may lead to delirium, convulsions, coma, and even death. Medical care is urgently needed.

Whenever the task requires the use of whole body suits, the environmental heat load must be determined.

- Dry bulb air temperature (Ta) is the temperature of the air registered by an ordinary mercury thermometer.

- Natural wet bulb temperature (Tnwb) is the temperature of the air registered with a thermometer whose bulb is covered with a wetted wick and exposed to a current of naturally moving air.

- Globe temperature (Tg) is the radiant heat from the sun or quartz heater which does not warm the air but heats the object it strikes, such as man.

- Wet bulb globe temperature index (WBGT) combines the natural wet bulb, globe, and dry bulb air temperature. The WBGT can be calculated from outdoor exposures as follows:

$$WBGT = 0.7\ Tnwb + 0.2\ Tg + 0.1\ Ta$$

Refer to the WBGT index (Table 1) for additional information on work/rest regime based upon the results of this evaluation.

As a rule, hyperthermia (body core temperature) should be considered whenever you conduct investigations where ambient temperatures are 70° F to measure WBGT indices.

It is recommended that at least 8 oz. of cool water, Gatorade or diluted fruit juice be drunk at each rest break. More frequent breaks may be needed if work is strenuous. These guidelines assume light to moderate work. If ambient temperatures are anticipated to exceed 80° F, set up a shaded rest area with benches.

Terrain instability. A potential hazard is the physical instability of the surface of the sumps. In previous drilling done during 1982 and 1987, settling in Ramparts Nos. 1 and 2 were noted. This settling was suspected to have been caused by drilling muds deposited in these sumps. This then caused shifting under the weight of the drill rig. Driving heavy equipment and automobiles over the top of the sump shall be avoided. Employees shall be trained to avoid standing on asphaltic materials or materials found in the sumps.

TABLE 1
PERMISSIBLE HEAT EXPOSURE VALUES
(VALUES ARE GIVEN IN C. WBGT)

	WORKLOAD		
WORK/REST REGIME	LIGHT	MODERATE	HEAVY
Continuous Work	25.0	21.7	20.0
75 Percent Work/ 25 Percent Rest, Each Hour	25.6	23.0	20.9
50 Percent Work/ 50 Percent Rest, Each Hour	26.4	24.4	22.9
25 Percent Work/ 75 Percent Rest, Each Hour	27.2	26.1	25.0

Higher heat exposures than shown above may be permissible if you have been undergoing medical surveillance, and it has been established that you are more tolerant to work in heat than the average worker, or if you have been acclimated.

It is recommended that workers use the heat stress forms; record both the WBGT temperature and your pulse rates. Pulse rates must be measured while resting or the beginning of the work day plus resting heart rate while in your office. Pulse rate must be taken during the work/rest cycle, the pulse rate must be taken. The pulse rate must return to below 50 percent above resting pulse rate prior to returning to work.

For example:

Work Cycle	Rest Cycle	Work Cycle
Resting pulse rate beginning at work cycle 70 beats per minute.	Pulse rate at beginning of rest cycle 140 beats per minute.	Begin pulse rate shall not exceed 105 beats per minute*

* Employee shall not return to work prior to pulse rate returning to below 110 beats per minute.

Reptiles/Domestic animals. One additional on-site hazard is the grassland habitat favorable for the Pacific rattlesnake, striped racer, and ring-necked snake. Snakes may be encountered by employees assigned to tasks under this contract. Employees should be trained on this hazard and specific areas where snakes may be encountered.

Dogs, while not normally encountered when perimeter fencing is intact, can be encountered under unusual circumstances. Workers should be trained to avoid these animals and to provide the animals safe exit off the site.

Workers shall receive training in the first aid procedures and steps taken to ensure that snake or animal bites receive medical care.

VII. KEY PERSONNEL AND RESPONSIBILITIES FOR SITE HEALTH AND SAFETY

The involvement and presence of the various DHS and EPA staff members would depend on the size of the job, whether there will be potential for exposure to the hazardous waste or not, and the type of tasks as listed in Section III. The following personnel will be responsible for the implementation and execution of the health and safety requirement contained in this plan.

Health and Safety Officer (HSO):

Mark Pheatt (DHS) (916) 324-9826
Certified Industrial Hygienist

Mike Manieri (DHS) (916) 322-0477
Industrial Hygienist

These individuals are responsible for coordination of the Health and Safety Plan with the contractor and Project Engineer, and providing technical input relative to activities at the site. The HSO will have responsibility for:

- Enforcing adherence to the Site Security and Site Maintenance Health and Safety Plan
- Reviewing planned site activities and reviewing specific safety procedures for ensuring adherence to the Health and Safety Plan.
- Handling and liaison concerning health and safety at the site with representatives of the state and federal agencies

- Developing and reviewing a monitoring program to assure adequate worker protection in all areas of the site

All major changes in field operations on the site that would affect the health and safety of the workers must be reported to the HSO. The HSO or SSO may stop any operation if unsafe conditions exist.

Site Safety and Equipment Officer (SSO)

Any DHS or EPA staff member, or employee of the contractor or sub-contractor who has undergone proper training may be designated for such position by the HSO. The SSO will also have the following responsibilities:

- Conduct routine safety inspections to identify and correct any unsafe conditions. SSO has the authority to stop work until unsafe conditions are corrected to his satisfaction.

- Under the direction of the HSO, implement the air quality monitoring, conduct site training sessions and crew briefings, and record site safety performance.

When safety equipment and protective clothing are required, the Safety Officer designated by the contractor or sub-contractor shall have the following responsibilities added to the above:

- Responsible for providing, cleaning, maintaining, and inspecting required health and safety equipment (contractors are responsible for their own equipment) and will assist the HSO in the implementation of the Health and Safety Plan.

- Check each person before entering the Exclusion Area to assure correct fit and function of the protective equipment required for the level of protection needed for each person's workplace.

- Maintain records of equipment use, repair, and maintenance.

- Supervise the cleaning, maintenance, and storage of protective clothing and equipment after each work shift.

- Establish liaison with local medical facilities and emergency aid services and attend to any

emergencies that may arise at the site.

Site Security

The Site Security Contractor will be responsible for maintaining control over vehicle and personnel movement into and out of the site. The Contractor shall be responsible for maintaining daily records of personnel, visitor, and vehicle entrance/exit, to/from the site and of all deliveries made. They will insure that proper sign-in/sign-out procedures are followed at the main gate.

The Site Security Contractor will have overall responsible for maintaining security at the site 24 hours a day to assure that no unauthorized personnel enter the site. The Contractor shall have the authority to remove any person from the site and to prevent any individual from entering the site. They shall also serve as a liaison with local police and fire departments.

VIII. LEVEL OF PROTECTION

The level of protection needed will vary according to the type of task and the potential exposure to the hazardous materials on-site. All workers working on non-hazardous tasks shall at a minimum, be in Level D protection.

The requirements necessary to achieve the various levels of protection are listed below:

Level D: Steel toe/shank boots and bootie covers; tyvek coveralls; hard hat; safety glasses; and gloves.

Level C: Level D, plus air purifying respirator with organic vapor.acid gas/particulate cartridges; neoprene outer gloves. Tape gloves and boots to coveralls with duct tape.

Level B: Steel toe/shank neoprene boots; saranex coveralls over cotton coveralls; Self-Contained Breathing Apparatus (SCBA) or air line respirator; hard hat; surgical inner gloves; viton outer gloves; tape gloves and boots to coveralls; spectacle insert, if necessary.

Exclusion Areas - As originally planned for the McColl site, the Exclusion Area covers the entire Ramparts and Los Coyotes areas. Only persons authorized by DHS and EPA will be permitted in this area. Some hazards exist in the Ramparts and Los Coyotes area, so precautionary measures and care should be taken when working near or driving in this area. The seeps, well heads, and bench marks will be pointed out during the orientation period to ensure that they are not driven over.

For non-hazardous site maintenance and site security operations, the Exclusion Area will be reduced and limited to the immediate area around the twelve sumps, any exposed seep, and the hazardous waste storage area. Such designation will be valid only while no cleanup activities such as seep excavation, covering, and removal are being undertaken.

Proper protective equipment and clothing will be required for all persons entering the Exclusion Area. All protective equipment must be checked for fit and function by the Safety Officer present.

Contractor staff who are required to walk in or upon the Exclusion Area will wear at a minimum, appropriate disposable boot covers, coveralls, and when in hand contact with the materials, appropriate gloves.

It is anticipated that no workers performing tasks under the site security and site maintenance contracts will be required to wear respiratory protective equipment. However, all contractors whose personnel will be using respiratory protection (Level C and B) shall have in effect a respiratory protection program that meets or exceeds the requirements of 29 Code of Federal Regulations (CFR) 1910.134 or Title 8 California Administrative Code (CAC) 5144. The respiratory protection training program shall, at the minimum, cover the following issues:

- medical qualification for respirator use
- respirator selection, use, and limitations (including warning properties)
- types of respiratory hazards
- fit testing, doffing, and donning
- inspection, cleaning, maintenance, and storage

Table 2 shows the level of protection, decontamination, and air monitoring needed for doing the various tasks.

Table 2 - Level of Protection Needed

Activity	Level of Protection	Decontamination*	Air** Monitoring
Janitorial Services	None	No	No
Weed Removal	Level D	Yes	Optional
Engineering Work	Level D	Yes	Optional
Repairing Equipment	Level D	Yes	Optional
Wastewater Tank Pumping	Level D	Yes	No

* Disposable, non-reusable suits, boot covers, gloves, etc. will not require decontamination. However, such disposable equipment will be collected on-site for proper disposal. All employees are encouraged to wash after working on-site This will prevent contamination of food or personal vehicles, etc.
** Air monitoring may be conducted on workers assigned tasks under this contract. Air monitoring will be conducted by DHS/EPA/HSO (See Section X).

IX. DECONTAMINATION FACILITIES AND PROCEDURES

Personnel Decontamination Facilities: The decontamination trailer is located between the administration trailer and the equipment decontamination area along the boundary of the Service Area. Access to the trailer will be limited to authorized personnel. The trailer will contain "clean-side" and "dirty-side" change areas, showers, toilet facilities, personnel protective equipment decontamination and storage area, and clean area storage. Collection containers for contaminated clothing, soiled towels, and discarded protection equipment, pre-wash area for gross decontamination, faucet and drain connections for quick cleanup, and an awning to provide shaded rest areas will be located outside the personnel trailer.

All workers or persons must complete the specified decontamination procedures after leaving the Exclusion Area. The following is a summary of the decontamination procedures:

DECONTAMINATION PROCEDURES FOR BREAKS OR LUNCH

1) Discard boot covers, coveralls, gloves (outer). Wash and rinse boots in the tubs with the brushes and solutions provided.

   a) BREAK ONLY - remove outer, inner gloves, wash hands and face; take break in designated shade area.

   -or-

   b) LUNCH - Remove boot covers and outer gloves; repeat #1a.

2) Remove tyvek coveralls (from inside out) and place it in disposal container.

3) Remove respirator (if required) and place it in the designated area.

4) Remove inner gloves and dispose of them in the disposal container.

5) Wash face and hands; take lunch break.

DECONTAMINATION PROCEDURES FOR END OF SHIFT

1) Remove boot covers

2) Wash and rinse boots in the tubs with the brushes and solutions provided.

3) Remove outer gloves and place in disposal container.

4) Remove tyvek coveralls (from inside out) and place it in disposal container.

5) Remove respirator (if required) and place it in the designated area for cleaning.

6) Remove inner gloves and dispose them in disposal container.

7) Remove inner clothing for laundering and proceed to showers.

   a) Protective Equipment (reuseable only) - All outer clothing and equipment (chemical resistant coveralls, gloves, boots, respirators, and face masks) will be washed, inspected, and repaired after each use. Any equipment or clothing which

cannot be reused will be disposed of properly.

b) Protective Equipment (not reuseable) - Shall be discarded and disposed of in the disposal container.

X. AIR MONITORING PROTOCOL

An air monitoring program will be set up prior to and during routine maintenance tasks as described in Section III in order to provide the data necessary for the protection of the workers. The purpose of the on-site monitoring program is to determine if the gas concentrations around the immediate work area are safe to work with the type of protective equipment used.

Air monitoring will be performed in the active work zones on a periodic basis. This will be accomplished with the use of portable monitoring equipment such as the Interscan Sulfur Dioxide Compact Portable Analyzer for SO_2 determination and the Foxboro Organic Vapor Analyzer (OVA) for determination of hydrocarbons (HC). For work zone reference, the OSHA PEL for SO_2 is 5.0 ppm, and for benzene (as an indicator for total HC) is 10 ppm.

Integrated personal air sampling to obtain Time Weighted Average (TWA) - 8 hours will also be performed from time to time to ensure appropriate respirator selection. Total HC sampling will be performed using a personal air sampler with a charcoal tube collection device in accordance with National Institute for Occupational Safety and Health (NIOSH) Method 1501. Sulfur dioxide monitoring will be performed using a personal sampling pump and a midget impinger with hydrogen peroxide collection media in accordance with NIOSH Method S-308. Analysis will be performed by DHS or its designated contractor.

XI. MEDICAL SURVEILLANCE PROGRAM

For workers involved with hazardous tasks (i.e., seep removal), an occupational medical program will be designed to protect employees against health hazards in the Exclusion Area. The contractor's medical provider will perform all pre-placement and screening examination in accordance with the provisions of 29 CFR 1910.120(f). He will review all such examinations and maintain copies of each worker's medical file for use in event of emergencies.

The contractor's medical provider should also, if possible, visit the hazardous waste work site to get familiar with employee's tasks, work site environments, and related health hazards or potential health hazards.

XII. EMERGENCY INFORMATION

If an injury occurs on-site, the contractor shall take the following action:

- Get medical attention for the injured person immediately.
- Depending on the type and severity of the injury, notify the physician for the injured person. If a chemical exposure is suspected, contact the DHS Health and Safety Officer (HSO) for instructions.
- Notify the DHS Health and Safety Officer (HSO).
- All injuries, regardless of their severity shall be immediately reported to the DHS HSO.
- Write down all circumstances surrounding the incident which caused the injury, including but not limited to, time of day, working conditions (weather, etc.), how long it had been since the last rest period when the injury occurred, what the person was doing when injured, what all other personnel on-site were doing, what level of protection was being used, if all safety procedures were being followed, etc. All team members that witnessed the incident shall write down their recollection of the incident, give it to the site safety coordinator, or SSO who shall then write up an exposure report. These exposure reports shall be submitted to the HSO within 5 working days from the incident.

Agency	Phone Number
Local:	
Ambulance	(714) 738-6122
Hospital (St. Jude)	(714) 871-3280
Hospital (Beach Community, Buena Park)	(714) 521-4770
Police (Fullerton)	(714) 521-6700
Fire (Fullerton)	(714) 738-6122
Other:	
DHS/HSO (Mark Pheatt)	(916) 324-9826
DHS/HSO (Mike Manieri)	(916) 322-0477
DHS/Project Engineer (Barry Blodgett)	(213) 620-6189

EPA/Project Engineer
(John Blevins) (415) 974-7728

EMERGENCY ROUTES

Facilities near the job site for the treatment of industrial illnesses and injury have been selected and are shown below. The hospitals are to be located and the route driven prior to field start-up.

1. Beach Community Hospital
   5742 Beach Boulevard
   Buena Park, California

   Route: Proceed 0.8 miles due west on Rosecrans Avenue. Turn left (south) on Beach Boulevard. Proceed 1.4 miles south to 5742 Beach Boulevard. Hospital is on the left.

2. St. Jude Hospital
   101 East Valencia Mesa Drive
   Fullerton, California

   Route: 1.9 miles due east on Rosecrans Avenue. Turn right (south) on Euclid Street. Proceed 0.6 miles south on Euclid Street. Turn left (east) on Valencia Mesa Drive. Proceed 0.85 miles east on Valencia Mesa Drive to intersection of Harbor Boulevard. Continue on Valencia Mesa Drive approximately 0.1 miles to entrance (on left) to St. Jude Hospital.

Figure 1 indicates the location of the hospitals relative to the site.

XIII. REFERENCES

1. Memorandum of Seep Cleanup, Ecology & Environment, October 1987.

2. Record of Decision, Remedial Alternatives Section, USEPA, April 1984.

3. Site Safety Plan for Field Investigations, prepared by CH_2MHill for USEPA, 1987.

4. McColl Perimeter Air Monitoring, Tetra Tech Inc., July 1987.

5. Groundwater Investigation Report - McColl Site, prepared by CH_2MHill for USEPA, September 1987.

SITE MAINTENANCE

SECTION 4

STATEMENT OF WORK

4.0 Background

The intent of the Statement of Work is to prescribe the details for the general operation and maintenance which the Contractor undertakes to perform in accordance with the terms of the contract. Where the Scope of Work describes portions of the work in general terms, but not in complete detail, it is understood that only the best general practice is to prevail and that only materials and workmanship of the first quality are to be used. Unless otherwise specified, the Contractor shall furnish all maintenance, labor, materials, tools, equipment and incidentals, and do all the work involved in executing the contract in a satisfactory and workmanlike manner.

Maintenance activities are defined as those repairs, improvements, inspection services and testing, janitorial services, and other similar activities necessary to preserve or prolong the physical integrity of the site and associated equipment and structures, or to correct safety or environmental deficiencies. It is anticipated that these tasks will be performed in both non-hazardous and hazardous areas of the site. For this reason, it is desirable that the Contractor be capable of performing under either condition, as appropriate. (See Figure 1 for site location and site features)

A. Responsibilities

The Contractor shall perform the following work items:

- Maintenance of Existing Site Cover, Including Erosion Repair;
- Well Maintenance and Repair;
- General Plumbing/Piping Repair and Replacement;
- Maintenance/Repair Site Outdoor Lighting System;
- Site Mowing and Weed Abatement;
- Hazardous and Nonhazardous Trash Removal;
- Remove Contents of Sanitary Waste Tank;

- o Sampling Contents of Truck Wash Rack Waste Water Tank/Temporary Storage Tanks;
- o Surveying;
- o Chain Link Fence and Gate Repair;
- o Painting/Repair of Wooden Fence;
- o Janitorial Service and Grounds Clean Up;
- o Emergency Seep Repair;
- o Grade and Gravel Roads/Support Areas;
- o Storage Tank Rental;
- o Removal and Disposal of Storage Tank Contents; and
- o Storage Tank Decontamination.

These work items are further described in Section 4.1.

The Contractor must be available on an "on-call" basis in order to provide emergency response services. A variety of activities may be required to repair emergency damage. In order to maintain the site in a functional and safe condition, the Contractor shall provide the State with a 24 hour telephone number. The Contractor further agrees to provide necessary services within 24 hours notice from the Engineer. In the event that repairs require lead time to obtain necessary materials, the Contractor shall respond within 24 hours of receipt of the materials.

Workers general clothing shall consist of steel toed work boots, work gloves, pants and shirt or coveralls. In addition, the workers shall wear a hard hat, safety glasses and hearing protection where required. An example work item requiring a hard had and hearing protection is working near a drill rig during well redevelopment. Some work items require personal protective equipment, which shall consist of steel toed rubber boots, tyvek clothing, gloves ad a respirator. This protective clothing shall be further defined in the Health and Safety Plan (Item 4.1.R), which is to be provided by the Contractor. Wearing the respirator and tyvek clothing is the maximum health and safety protection anticipated (no supplied air required). Health and safety requirements are specified for each work item in Section 4.1.

4.1 WORK TO BE PERFORMED

A. Maintenance of Existing Site Cover, Including Erosion Repair

1. Site Cover Repair

The hazardous waste at the site is located in twelve sumps. Their approximate locations are outlined in Figure 1. The total area occupied by the sumps is approximately seven (7) acres. The six sumps in the Los Coyotes Exclusion Area have a soil cover which served as a base for the golf course lawn. The Upper Ramparts sumps also have a soil cover. The lower sumps in the Ramparts Exclusion Area, with the exception of sump R-4, are covered with a geotextile fabric under an eighteen (18) inch clay cap. Sump R-4 presumably has only a clay cap over it. Any type of covering over the hazardous waste sumps is referred to as a site cover or cap.

Sump R-3 currently has a sunken area covering approximately six hundred (600) to seven hundred (700) square feet and extending about eighteen (18) inches below the existing grade. Sump R-4 also has a sunken area of approximately the same volume.

Site cover repairs are necessary to protect the integrity of the cap, control the escape of volatile gases and odor causing emissions into the air, and the entrance of surface water into the underground waste sumps.

The Contractor shall maintain and repair the site cover as necessary to preserve the integrity of the cap covering the site. Maintenance and repair of the site cover includes maintenance and repair of all areas where erosion has damaged the site cover, repair of any areas where subsidence has occurred, and repair of any cracks or bare areas in the site cover.

Backfilling at each repair location shall be done in a series of twelve (12) inch lifts (measured before compaction), each lift being tested for compaction at least once, and again after every fifty (50) cubic yards of fill. Locations where compaction will be tested will be specified by the Engineer. Backfill shall be compacted to ninety (90) percent compaction per ASTM D 1557-78 at a moisture content of optimum to optimum plus four (4)

percent. Acceptable methods for determining in the field the compaction of backfilled materials are ASTM 1556-82 and D 2167-84.

The findings of all compaction tests shall be presented to the Engineer in a report stating the locations and results of each compaction test and including the data sheets and calculation sheets used to determine those results. Such findings shall be submitted and approved by the Engineer prior to payment.

Backfilling shall be completed to the alignment, grade, and slope as directed by the Engineer. Filled areas shall be aligned to prevent the pooling of rain water on the cap and sloped to facilitate the drainage of surface water from the site cover.

All backfill shall be of clean imported material (not contaminated) as approved by the Engineer. The Engineer's acceptance of backfill material shall be obtained prior to purchase of such material. The material shall be a clean clay (classified as CL under the Unified Soil Classification System) capable of attaining a permeability of 10-6 cm/sec or less at 90 percent compaction.

Geotextile will be applied to specific areas of the existing site cover prior to the placement of clay backfill as directed by the Engineer. The geotextile will be continuous Filament, spun-bonded, needle-punched polypropylene, such as Crown Zellerbach F113RETEX or equivalent. The geotextile shall be a thickness of one hundred forty (140) mils.

This work item requires general work clothing.

Basis of Bid (Site Cover Repairs):

The bid basis is per cubic yard, per square foot, or per test, as specified. The bid price shall include full compensation for all labor, equipment, materials, mobilization and demobilization, and incidentals required to complete the work item, including allowances for health and safety requirements and delivery charges. No separate payment will be made for stockpiling, rehandling or other work necessary to accomplish the required work. The Contractor shall make his own assessment of the difficulties to be encountered and equipment required for erosion control.

While actual quantities and frequencies may vary and will be determined by the Engineer, for the purpose of bidding, assume three hundred (300) cubic yards of fill, four thousand (4,000) square feet of geotextile, and twelve (12) compaction tests will be used during six (6) repair events during the life of the contract.

Bid Item (Bid Unit is Per Cubic Yard or Square Foot):

Erosion Repair using clay material (cubic yard); Erosion Repair using geotextiles in conjunction with clay (square foot).

Bid Item (Bid Unit is Per Field Compaction Test):

Conduct Compaction Test

2. Erosion Repair Away from Sumps

Various locations throughout the site which are not above or contiguous with the sumps also suffer from the effect of erosion. This shows up as washouts or as deposits of silty materials in drainage swales. One such washed out area currently exists southeast of the truck wash rack.

At the direction of the Engineer, the Contractor shall maintain and repair washed out areas throughout the site. Backfill material for filling in wash outs shall be obtained from on-site borrow areas as directed by the Engineer. Backfill shall be compacted by rolling, four (4) pass minimum, or by gasoline-driven mechanical tamper. Backfill which is to be compacted by rolling shall be placed in loose lift(s) no greater than twelve (12) inches prior to compaction. Backfill which is to be compacted by gasoline-driven mechanical tamper shall be placed in loose lift(s) no greater than four (4) inches prior to compaction.

At the direction of the Engineer, the Contractor shall remove the settled silty material from various drainage swales located on the site, restoring the invert of the swales. Excavated materials shall be deposited in open, unused areas of the site located above the flood plane.

This work item requires general work clothing.

Basis of Bid (Erosion Repair Away from Sumps):

The basis of bid shall be per hour and shall include full compensation for furnishing tools, labor, equipment, materials, mobilization and demobilization, and incidentals, including allowances for health and safety requirements, for the maintenance of drainage swales and for repair of washed out areas.

While actual quantities and frequencies may vary and will be determined by the Engineer, for the purpose of bidding, it is anticipated that one backhoe (or equivalent) with operator and one swamper if needed (laborer with shovel) will be utilized once yearly for a total of twenty-four (24) clock hours for each of the Bid Items during the life of the contract.

Bid Item (Bid Unit is Per Hour):

Backhoe, bobcat, or equivalent with operator
Swamper (laborer with shovel)

B. Well Maintenance and Repair

The Contractor shall maintain, repair, or abandon monitoring wells associated with the McColl Hazardous Waste Site (See Figure 2 for approximate well locations). The wells range from 2 to 5 inch nominal size. Some are equipped with submersible pumps. Attachment 1 summarizes pertinent well data. It is anticipated that wells A-13, W-1, W-3, and W-5 will be abandoned.

Maintenance and repair at wells shall include:

- o Repair of damage to surface completions or vaults;
- o Replacement of existing surface completions;
- o Repair or replacement of pumps, wiring, or pump controls;
- o Cleaning and redevelopment of wells;
- o Inspection of wells by submersible video camera;
- o Abandonment of wells (example in Attachment 1-A);

- o Conduct pump or slug tests to evaluate well performance; and
- o Survey well needs.

During well redevelopment, the Contractor shall place the well development water in drums which are supplied by the Department. The Contractor shall provide transportation of these drums to a large storage tank located on site and supplied through Section 4.1(M) herein. The Contractor shall provide a pump and shall transfer drum contents to the storage tank.

Shop fabrication of well parts may be necessary. Typical well surface completions are shown in Figures 2A, 2B, & 2C. When directed by the Engineer, the Contractor shall make up shop fabrication drawings of well parts for approval by the Department. Shop fabrications shall be in accordance with the specifications indicated on the Department's approved drawings.

All methods and equipment proposed for use in the maintenance, repair, inspection, testing, or abandonment of a well shall be approved by the State prior to commencing work.

Contractor shall be responsible for obtaining all necessary permits.

This work item may require special health and safety protection for pump repair/replacement, cleaning the well, redeveloping the well, or performing pump and slug tests.

Basis of Bid:

The basis of bid shall be per well for each type of well repair. The bid price shall include full compensation for furnishing all labor, materials, tools, equipment, mobilization and demobilization, and incidentals, including allowances for health and safety requirements and the removal of contaminated soils and water for proper disposal. Contaminated soil shall be trucked to a Class I disposal site approved to take CERCLA waste, i.e., a facility that is in full compliance with EPA's off-site disposal policy (Attachment 2).

While actual quantities and frequencies may vary and will be determined by the Engineer, for the purpose of bidding, assume the following work activities will occur as indicated:

	YEAR 1	YEAR 2	YEAR 3
Survey well heads*	2 wells	5 wells	10 wells
Replace locking cap on well	12	none	none
Replace surface completion on well	4	4	4
Install security vault over well	12	2	2
Replace bladder pump	1	1	1
Repair submersible pump wiring & controls	1	1	1
Replace submersible pump	1	1	1
Video log well 25 to 150 feet in depth	3	1	1
Video log well 150 to 300 feet in depth	6	2	2
Clean and redevelop well 25 to 150 feet in depth	2	2	2
Clean and redevelop well 150 to 300 feet in depth	2	2	2
Abandon well 25 to 150 feet in depth	1	0	0
Abandon well 150 to 300 feet in depth	2	1	0

*It is anticipated that well surveying will be done annually.

Bid Item (Bid Unit is Per Well):

Survey well head
Replace locking cap on well
Replace surface completion
Install security vault over well
Replace bladder pump
Repair submersible pump wiring and controls
Replace submersible pump
Video log well 25 to 150 feet in depth
Video log well 150 to 300 feet in depth
Clean and redevelop well 25 to 150 feet in depth
Clean and redevelop well 150 to 300 feet in depth
Abandon well 25 to 150 feet in depth
Abandon well 150 to 300 feet in depth

C. General Plumbing/Piping Repair and Replacement

Most of the site's piping is underground. It includes 6 inch and smaller water piping, 4 inch and smaller sanitary sewage piping, 2 1/2 inch and smaller hot wash water piping, and 6 inch truck wash rack waste water drain piping.

The Contractor shall excavate, repair and/or replace piping, pressure test, and backfill as directed by the Engineer. All work shall conform to the Universal Plumbing Code, 1988 Edition, when applicable. (See Figure 3-Site Drawings). Sections of repaired piping shall be pressure tested at normal work pressure before backfilling. Pressure testing shall be witnessed by the Engineer. Backfilling shall be done in a series of 12 inch lifts (measured before compaction), each lift being tested for compaction at least once, and again after every 50 cubic yards of fill. Backfilling shall be to 95% compaction per ASTM D 1557-78 at a moisture content of optimum to optimum plus 4 percent. Acceptable methods for determining in the field the compaction of backfilled materials are ASTM D 1556-82, D 2167-84, and D 2922-81.

Locations where in the field compaction tests will be made will be determined by the Engineer. Excavated materials may be used for backfill as long as compaction requirements can be met. Additional backfill, if needed, shall be clean top soil. Cuts made through gravel shall be finished per Section 4.1(L) herein, Grade and Gravel Roads/Support Areas. Cuts made through asphalt shall be finished per site drawing C-3. Locations where compaction will be tested will be specified by the Engineer.

The findings of all compaction tests shall be presented to the Engineer in a report stating the locations and results of each compaction test and including the data sheets and calculation sheets used to determine those results. Such findings shall be submitted and approved by the Engineer prior to payment.

The Contractor shall furnish and install all pipe, fittings, closure pieces, valves, supports, bolts, nuts, gaskets, jointing materials, and appurtenances as shown and specified, and as required for a complete and workable piping system. This work item requires general work clothing.

Basis of Bid:

The basis of bid shall be by the linear foot or as specified below. Prices are to include excavation and backfill. At the direction of the Engineer, the piping will be repaired or replaced, in kind, or as specified. The bid price shall include full compensation for furnishing all labor, materials, tools, equipment, permits, and incidentals for repairing the piping at the site, including allowances for health and safety requirements.

While actual quantities and frequencies may vary and will be determined by the Engineer, for the purpose of bidding, assume one (1) foot of each type and size of pipe listed will be replaced or repaired during the life of the contract. Also assume three (3) backflow valve certifications will be required and fifteen (15) field compaction tests will be made during the life of this contract.

Bid Item (Bid Unit is Per Linear Foot):

4 inch	Schedule 40	PVC	Pipe
3 inch	Schedule 40	PVC	Pipe
2 inch	Schedule 40	PVC	Pipe
1 inch	Schedule 40	PVC	Pipe
3/4 inch	Schedule 40	PVC	Pipe
3 inch	DWV	ABS	Pipe
2 inch	DWV	ABS	Pipe
1 inch	DWV	ABS	Pipe
3 inch	ASTM A 53-87 Sch 40	Galvanized Steel	Pipe
2 inch	ASTM A 53-87 Sch 40	Galvanized Steel	Pipe
1 1/2 inch	ASTM A 53-87 Sch 40	Galvanized Steel	Pipe
1 1/4 inch	ASTM A 53-87 Sch 40	Galvanized Steel	Pipe
1 inch	ASTM A 53-87 Sch 40	Galvanized Steel	Pipe
3/4 inch	ASTM A 53-87 Sch 40	Galvanized Steel	Pipe
1/2 inch	ASTM A 53-87 Sch 40	Galvanized Steel	Pipe

6 inch	Ductile Iron Pipe
4 inch	Ductile Iron Pipe
3 inch	Ductile Iron Pipe

Bid Item (Bid Unit is Per Certification):

Inspection and certification of the back flow control valve.

Bid Item (Bid Unit is Per Field Compaction Test):

Conduct compaction test

D. Lighting System

There is an on-site outdoor lighting system, which consists of twenty-four (24) 150 watt, 480 volt, high pressure sodium lamps installed in Appleton Areamaster 100 receptacles. The lamps are mounted on power poles nominally twenty (20) feet above grade. The Contractor shall replace lamps or sockets on an as-needed basis. This work item requires general work clothing.

Basis of Bid:

The bid price shall be per lamp or receptacle, as specified. The bid prices shall include full compensation for furnishing all labor, materials, tools, and incidentals, including allowances for health and safety requirements, needed to replace lamps or sockets as needed.

While actual quantities and frequencies may vary and will be determined by the Engineer, for the purpose of bidding, assume the replacement of three (3) lamps and one (1) receptacle per year during the life of this contract.

Bid Item (Bid Unit is Per Item):

Replace three (3) lamps per year;
Replace one (1) receptacle per year.

E. Site Mowing and Weed Abatement

The Exclusion Area of the site and small portions of the Support Area are covered with weeds which dry out during the spring and summer months. These dried weeds may present a fire hazard. Such a fire could cause toxic and

hazardous gases to be emitted and/or endanger nearby residences. (See Figure 1) Clearing the site of these weeds is required to eliminate the fire hazard.

The Contractor shall mow the site and remove weeds when directed by the Engineer. The Contractor shall cut down the weeds close to the roots with a tractor which is equipped with a mower. In areas inaccessible to the tractor mower, the Contractor shall use weed eaters, or equivalent devices. The Contractor shall provide a water truck to spray water for dust control as there are residences close to the property line. By arrangement with the City of Fullerton, the Contractor can obtain fresh water from a fire hydrant outside the main gate. Wells, bench marks, and survey markers shall not be disturbed, but left as they are. The Contractor shall rake, or gather up, all cut down weeds and bushes and transport them to a landfill permitted for the disposal of such waste.

Due to the nature of the wastes buried at the site, the Contractor shall take into consideration the need to take extra precautionary measures, such as avoiding operation of the heavy equipment directly on top of the sump areas, keeping away and clear from cordoned areas, bench marks, monitoring wells, and other installed equipment, and wearing protective clothing appropriate for the job such as leather boots, gloves, etc. The Contractor shall also strictly implement and enforce the Health and Safety Plan requirements. This work item requires health and safety protection.

The application of herbicides is prohibited at all times.

<u>Basis of Bid</u>

The price basis is per acre or as specified below for mowing the cover, pulling weeds, cutting down larger bushes and Caster Bean trees, transporting cuttings off-site, and disposing of cuttings in a land fill permitted to take such waste. This price shall include full compensation for furnishing all labor, materials, tools, equipment, water, water meter, mobilization and demobilization, transportation and disposal, and incidentals for doing all the work involved with keeping the site mowed and the weeds under control, including allowances for health and safety requirements.

While actual quantities and frequencies may vary and will be determined by the Engineer, for the purpose of bidding, assume that mowing and weed control activities will be done semiannually (twice per year) and will require eight (8) work days per year. Thus, assume a total of twenty-four (24) work days will be needed for the entire three (3) year contract. The area which requires mowing and weed removal will be a minimum of 20 acres. Thus, assume one hundred twenty (120) acres will be the total acreage for the three (3) year contract.

Bid Items (Unit Bid is Per Hour or Per Cubic Yard):

- o Tractor mower operator, clearing, grubbing, tree removal, etc., as specified above (per hour);
- o Hauling and disposal of cuttings and debris (per cubic yard);
- o Water truck (1500-gallon minimum capacity) with operator (per hour);
- o One (1) compact tractor as specified (per hour).

F. Hazardous and Nonhazardous Trash Removal

Due to normal operating activities, acts of nature, and unauthorized dumping, trash must be periodically picked up and removed from the site.

1. Hazardous Trash/Materials

The Contractor shall gather up and remove all hazardous items considered trash in order to maintain safe conditions and a clean appearance at the site. Items to be gathered up will be scattered throughout the site and will require some policing activities. This trash shall be removed to a Class 1 site, approved to accept CERCLA waste, i.e., a facility that is in full compliance with EPA's off-site disposal policy. (Attachment 2)

Hazardous trash includes drums or bins containing contaminated soil, used health and safety equipment, and items contaminated while being used on site. This work item requires health and safety protection.

Basis of Bid:

Hazardous Trash

The basis of bid for hazardous trash removal shall be by 55 (fifty-five) gallon drum and by 5 cubic yard roll-off bin. These price units shall include full compensation for furnishing all labor, materials, tools, equipment, mobilization and demobilization, and incidentals to perform the work, including allowances for health and safety requirements and transportation and disposal fees for shipment to a Class 1 waste disposal site which is approved to accept CERCLA waste. (See Attachment 2). The Contractor shall make his own assessment of the difficulties to be encountered and equipment required.

While actual quantities and frequencies will vary and will be determined by the Engineer, for the purpose of bidding, assume that the Contractor will be directed to gather up, transport, and dispose of hazardous trash on a quarterly basis and that the volume of trash collected will amount to fifty (50) 55-gallon drums and eight (8) 5-cubic yard roll-off bins during the life of the contract.

Bid Item (Bid Unit is as stated below):

Hazardous trash removal in 55 gallon drums (per drum);
Hazardous trash removal in 5 cubic yard roll-off bin (per bin).

2. Nonhazardous Trash (Exclusion Area)

This subsection covers the collection of nonhazardous trash within the Exclusion Area only. The collection of nonhazardous trash within the Support Area is covered in Section 4.1(L)(5.0).

The two tasks vary in several ways. Personnel used for the collection and removal of nonhazardous trash within the Exclusion Area must be trained in the recognition and avoidance of the potential hazards which exist in that area. Hazards and required training shall be discussed in the Health and Safety Plan (Item 4.1.R.). The terrain within the Exclusion Area is rougher and objects to be collected are larger and heavier.

The Contractor shall gather up and remove all nonhazardous trash in order to maintain a safe and clean appearance at the site. Items to be gathered up will be scattered throughout the site and will require some policing activities. The Contractor shall transport this trash to a landfill permitted to take such waste for disposal.

Nonhazardous trash includes noncontaminated items used for site activities, weeds and trash blown or illegally dumped on the site, and items such as pallets used for storage of drums, etc.

Currently, there is an existing volume of trash and debris scattered about the site which requires immediate collection and removal. This includes the remains of an old car body and auto tires, potted plants, articles of clothing, housewares, drum lids and locking rings, 80 drums of solidified foaming agent, and six (6) dead trees. The above items would be considered nonhazardous. This work item requires general work clothing.

Basis of Bid:

Nonhazardous Trash

The basis of bid for nonhazardous trash removal shall be by dump truck load. This price shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, including allowances for health and safety requirements, removal of the trash, and transportation and disposal fees at a non-Class I landfill permitted to take such waste. The

Contractor shall make his own assessment of the difficulties to be encountered and equipment required.

While actual quantities and frequencies will vary and will be determined by the Engineer, for the purpose of bidding, assume that the Contractor will be directed to gather up, transport, and dispose of nonhazardous trash on a quarterly basis and that the volume of trash collected will amount to one hundred (100) cubic yards during the life of the contract.

Bid Item (Bid Unit is Per Dump Truck Load):

Nonhazardous trash removal by 5 cubic yard dump truck load.

G. Removal of Contents of Sanitary Waste Tank

The Contractor shall empty liquid and sludge from the 3,000 gallon underground sanitary waste tank. The Contractor shall transport the waste to an approved site operated by the Orange County Sanitation District. The waste tank holds sewage from showers, a toilet, and lavatory facilities in the decontamination trailer and the administration trailer. Frequency will be as directed by the Engineer and will vary with the number of personnel at the site. This work item requires general work clothing.

Basis of Bid:

The basis of bid shall be by 3,000 gallon tank for emptying and disposing of the contents of the sanitary waste tank and shall include full compensation for furnishing all labor, materials, vacuum truck, hose and fittings, equipment, and incidentals for performing the work, including allowances for all health and safety requirements and disposal fees.

While actual quantities and frequencies may vary and will be determined by the Engineer, for the purpose of bidding, assume the sanitary waste tank will be emptied bimonthly (once every two (2) months).

Bid Item (Bid Unit is Per 3,000 Gallon Tank):

Empty and dispose of sanitary sewage from the 3,000 gallon sanitary waste tank.

H. Sampling Contents of Truck Wash Rack Waste Water Tank/Temporary Storage Tanks

1. Sampling

Wash water and rain from the truck wash rack is contained in an underground tank. This tank will contain dirt and contaminants from any piece of equipment which is washed at the rack during a decontamination process. When the tank is nearly full, or when frequent use of the wash rack is anticipated, the Engineer will direct the Contractor

to sample the contents of the tank, properly preserve the obtained samples, and transport them to the State of California Laboratory in downtown Los Angeles.

Temporary storage tanks are used at the site for the storage of equipment, decontamination wash water, well development water, and water from other sources, also possibly containing mud and hazardous waste. These tanks must be sampled prior to the disposal of tank contents. When directed by the Engineer, the Contractor shall sample the contents of the tank or tanks, properly preserve the obtained samples, and transport them to the State of California Department of Health Services, Southern California Laboratory, 1449 Temple Street, Los Angeles, CA 90026. Hours of operation are 7:00 A.M. to 3:30 P.M.

The Contractor shall provide the labor, personal protective equipment, ice chests, sampling equipment and transportation (of sample bottles, trip and site blanks, and organic free water) from and to the State of California Laboratory during laboratory business hours. Sample bottles, trip and site blank bottles, and organic-free water will be supplied by the State. This work item requires health and safety protection.

2. Sampling and Transportation Plan

The Contractor shall prepare and submit to the Department for approval, a Sampling and Transportation Plan, describing at a minimum, sampling procedures, potential hazards, safety and sampling equipment to be used, quality assurance/quality control (QA/QC) procedures and chain of custody procedures. This Plan shall be submitted within sixty (60) calendar days from the date of the Department's Notice to Proceed on this contract. Sampling shall not commence until the Sampling & Transportation Plan has been approved by the Engineer. The Department will review and comment on or approve the Contractor's proposed Sampling & Transportation Plan within fifteen (15) working days from the date the Department receives the Plan.

Revisions to the Plan shall be made by the Contractor at no cost to the State. The Sampling Plan shall follow methods of sampling and sampling protocol described in Section One of "Test Methods

for Evaluating Solid Waste, Physical/Chemical Methods," SW-846, 2nd Edition, U.S. Environmental Protection Agency, 1982, and preservation methods described in the following documents regarding the following analyses:

1) "Methods for Analysis of Water & Wastes", EPA 600/4-79, 020, U. S. Environmental Protection Agency, March 1983.

2) "Methods of Organic Chemical Analysis of Municipal & Industrial Wastewater", EPA-600/4-82-057 U. S. Environmental Protection Agency, July 1982.

3) "Standard Methods for the Examination of Water and Wastewater", (15th Edition), American Public Health Association, 1981.

Substance	Test Method	Conc. Limit
Fish Bioassay	Std. Methods Part 800	
Arsenic	EPA 206.4	2.0 mg/l
Cadmium	EPA 213.1	0.35 mg/l
Chromium (total)	EPA 218.1	2.0 mg/l
Copper	EPA 220.1	3.0 mg/l
Lead	EPA 239.1	2.0 mg/l
Mercury	EPA 245.1	0.03 mg/l
Nickel	EPA 249.1	10.0 mg/l
Silver	EPA 272.1	5.0 mg/l
Zinc	EPA 289.1	10.0 mg/l
Cyanide (total)	EPA 335.2	5.0 mg/l
Cyanide (free)	EPA 335.1	1.0 mg/l
PCB's & Pesticides	EPA 608.0	0.02 mg/l
Total Toxic Organics	" 624 & 625	0.58 mg/l
pH	EPA 150.1	2.0-12.5 mg/l
Total Sulfide	EPA 376.2 &/or 376.1	5.0 mg/l
Dissolved Sulfide	Std. Methods 427A	0.5 mg/l
Oil & Grease	EPA 413.1 Std. Methods 503e	100.0 mg/l

Analyses for the substances listed above will be conducted by the State of California, Southern California Laboratory. It is anticipated that these analyses will require eight (8) separate samples from each tank to be sampled. All samples shall be obtained during one (1) sampling session. In addition, a one (1) gallon sample will be taken to be analyzed for treatability.

Sampling protocol, which is outlined in the Sampling and Transportation Plan, shall include the following:

- o All field sampling activities shall be documented. The sampler(s) shall keep a field log book that will document at a minimum:

  - Description of sampling equipment
  - Description of the sample collection points
  - Sampling equipment decontamination procedures
  - Description of sample containers
  - Date and time of sampling
  - Weather conditions
  - Names of samplers involved and
  - Any difficulties or unique observations made during sampling

- o A label shall be affixed to each sample container by the sampler at the time of collection. The label information shall include:

  - The sampler's name
  - Date the sample was collected
  - Time of day
  - Tank description
  - A unique sample identification number

- o All samples and site and trip blanks shall be kept in an ice chest at 4 degrees centigrade pending delivery to the laboratory. "Chain of Custody/Sample Analysis Request" forms will accompany the samples and blanks to the laboratory.

<u>Basis of Bid:</u>

The basis of the bid shall be in two parts:

(1) This bid is based on a complete set of tank samples, which shall include labor, materials, tools, equipment, and incidentals for taking and transporting samples, including allowances for health and safety requirements.

(2) The second bid is based on a lump sum bid price for writing a Sampling and Transportation Plan for all sampling activities, which shall include full compensation for furnishing all labor and materials to produce the plan.

While actual quantities and frequencies may vary and will be determined by the Engineer, for the purpose of bidding, assume six (6) sets of tank samples will be taken during the life of the contract.

Bid Item (Bid Unit is Per Complete Set of Tank Samples):

Transport sample bottles to site, sample tank;
Transport samples to State laboratory in Los Angeles.

Bid Item (Bid Unit is Lump Sum):

Write Sampling and Transportation Plan

I. Surveying

At present, there are eight (8) slope movement markers on the southernmost slope of the Ramparts Area. Installation of on- and off-site wells is an ongoing process. Following installation, wells need to be surveyed. Also, some wells will be periodically resurveyed.

Contractor shall provide surveying services on a quarterly basis for slope movement markers and at irregular intervals (on an as-needed basis) for wells. Elevations in feet will be determined to the nearest one-hundredth (1/100) of a foot. Horizontal locations will be in terms of California Coordinates and will be determined to the nearest tenth (1/10) of a foot. The stated precisions are relative to Orange County Bench Marks numbers 19-37 at the northeast corner of the north curb of the intersection of Rosecrans and Sunnyridge, and 19-38 at the northeast side of the intersection of Tiffany Place and Sunnyridge, one foot north of the curb near the street lamp post. This work item requires general work clothing.

To facilitate on-site surveys, the Contractor shall establish a bench mark in the non-Exclusion Area of the McColl site. The Contractor shall propose the location of the bench mark for approval by the resident Engineer. The Contractor shall construct the on-site bench mark to the specifications set forth in Section 81 of the California Department of Transportation Standard Specifications.

The Contractor shall provide the State with copies of all survey notes and calculations. There shall be no separate or additional compensation for this effort. The cost for providing this documentation to the State shall be calculated into the bid price of each bid item.

Basis of Bid:

The bid price shall be per slope stability marker or per well, as specified, and a lump sum for the construction of the on-site bench mark. The bid prices shall include full compensation for all labor, materials (including survey marker disk), tools, and incidentals, including allowances for health and safety requirements, needed to perform the work described.

While actual quantities and frequencies may vary and will be determined by the Engineer, for the purpose of bidding, assume eight (8) slope stability markers will be surveyed on a quarterly basis during the life of the contract. Also assume 15 wells will be surveyed during the second year of the contract and 25 wells will be surveyed during the third year of the contract.

Bid Item (Unit Bid is Per Slope Stability Marker):

Survey slope movement markers on a quarterly basis.

Bid Item (Unit Bid is Per Well):

Survey wells on an as needed basis.

Bid Item (Unit Bid is a Lump Sum):

Installation of on-site bench marks.

J. Chain Link Fence and Gate Repair

The site is currently secured with a six (6) foot cyclone wire fence. Due to accidents and vandalism, the fences and gates need periodic repair.

The fencing around the site has been installed at various times using different fencing specifications. The fence on the north, east, and south perimeters of the Ramparts Area, which is temporary fencing, is six (6) feet high and has three (3) stranded barbed wire (wired in place) with single arm supports facing outward. The temporary fencing includes one (1) thirty (30) foot gate, which is six (6) feet high and has three (3) strands of barbed wire. The remainder of the fencing at the site, which

is of various commercial qualities, measures six (6) feet high, has fence posts set in concrete, and top and bottom tension wires. The gates are twenty (20) and thirty (30) feet wide.

The Contractor shall repair or replace portions of chain link fencing when directed by the Engineer.

Under expected conditions, the Contractor's employees will not be working in hazardous conditions. As such, this repair work requires that each employee confine his/her presence to the perimeter.

1. Temporary Fencing

   Repair of the temporary fencing shall consist of straightening out existing fabric, placing barbed wire back in its appropriate slots and wiring securely in place in the barb arms, straightening or resetting existing fence posts, resecuring fabric to tension wire or posts with new galvanized tie wires or hog rings per ASTM F 626-82 and F 567-84, resetting gate hinges and bending gate back into functional shape, and splicing tension wire together.

   Replacement of the temporary fence shall be based on replacement in kind. Posts shall be zinc coated steel pipe and shall be driven three (3) feet into the soil at a maximum horizontal spacing of ten (10) feet. Chain link fence fabric (2-1/8 inch mesh, 11-1/2 gage), tie wires and hog rings, tension wire, barbed wire (15-1/2 gage, 5 inch barb spacing), and barb arms shall be zinc coated. New sections of fabric shall be spliced in by weaving a single picket between the new and existing fabrics. Fabric shall be attached to tension wire and posts per ASTM F 626-82 and F 567-84.

   The Contractor shall transport and dispose of discarded and/or replaced gate and fencing materials at a landfill permitted to take such waste for disposal.

   This work item requires general work clothing.

2. Commercial Quality Fencing

   Repair of the remaining fence (commercial quality) shall consist of straightening out existing fabric, straightening or resetting existing fence posts, resecuring fabric to tension wires or posts with new

galvanized tie wires or hog rings per ASTM F 626-82 and F 567-84, resetting gate hinges and bending gates back into functional shape, and splicing tension wire together.

Replacement of the commercial quality fencing shall be in conformance with Attachment 3. When not specified in Attachment 3, the Contractor shall adhere to ASTM A 392-84 (Class I zinc coating, 1.2 oz./sq. ft., galvanized after weaving, 20-1/2 diamond count), A 824-86 (Class II zinc coating, 1.2 oz./sq. ft.), F 552-83, F 567-84, F 626-84, F 669-81, F 900-84, and F 1083-87.

The Contractor shall transport and dispose of discarded and/or replaced gate and fencing materials at a landfill permitted to take such waste for disposal.

This work item requires general work clothing.

Basis of Bid:

The basis of the bid price is per linear foot, per post, or per gate, as specified. The bid prices shall include full compensation for furnishing all labor, mobilization and demobilization, transportation and disposal, materials, tools, equipment, and incidentals, including allowances for health and safety requirements and for repairing or replacing the fence and gates. Disposal of fencing materials deemed by the Engineer to be unsalvageable shall be at a landfill permitted to take such waste. The Contractor shall be responsible for any disposal fees.

1. Temporary Fencing

While actual quantities and frequencies may vary and will be determined by the Engineer, for the purpose of bidding, assume the following will be repaired or replaced during the life of the contract:

- Repair three hundred (300) feet of existing fence;
- Installation of fifty (50) linear feet of new fence (excluding barbed wire and posts);
- Installation of one hundred fifty (150) linear feet of barbed wire;
- Installation of five (5) new fence posts;
- Repair one (1) thirty (30) foot gate;
- Replace one (1) thirty (30) foot gate.

It is anticipated that fence repairs will be performed annually, but may occur more frequently if the Engineer determines that site security has been jeopardized.

2. Commercial Quality Fencing

While actual quantities and frequencies may vary and will be determined by the Engineer, for the purpose of bidding, assume the following will be repaired or replaced during the life of the contract:

- o Repair five hundred (500) linear feet of existing fence;
- o Installation of two hundred (200) linear feet of new fence (excluding posts);
- o Installation of ten (10) new fence posts;
- o Repair two (2) thirty (30) foot gates;
- o Replace one(1) thirty (30) foot gate.

It is anticipated that fence repairs will be performed annually but may occur more frequently if the Engineer determines that site security has been jeopardized.

<u>Bid Item - Temporary Fencing - (Bid Unit is Per Linear Foot, Per Post, or Per Gate):</u>

Repair of existing fence (linear foot)
Installation of new fence (excluding barbed wire and posts) (linear foot)
Installation of new fence posts (per post)
Installation of new barbed wire (linear foot)
Repair of 30 foot gate (per gate)
Replacement of 30 foot gate (per gate)

<u>Bid Item - Commercial Quality Fencing - (Bid Unit is Per Linear Foot, Per Post, or Per Gate):</u>

Repair of existing fence (linear foot)
Installation of new fence posts (per post)
Installation of new fence (excluding posts) (linear foot)
Repair of 30' foot gates (per gate)
Replacement of 30' foot gate (per gate)

K. Painting/Repair of Wooden Fence

A six (6) feet high by two hundred twenty-five (225) feet long dog eared wooden fence runs along Sunny Ridge Drive. The fence is currently painted on one side only (the side facing Sunny Ridge Drive) with two coats of oil based paint. Due to aging, accidents, or vandalism, the fence may require repair and/or repainting.

Under expected conditions, the Contractor's employees will not be working in hazardous conditions. Thus, this repair work requires that each employee confine his/her presence to the perimeter.

The Contractor shall repair, replace and/or paint the fence when directed by the Engineer. New fence posts shall be four (4) inch by for (4) inch cedar or redwood, set in two (2) feet minimum concrete footings and extend five (5) feet minimum above grade. Posts shall be spaced a maximum of eight (8) feet from each other. New top and bottom rails shall be two (2) inch by four (4) inch cedar or redwood. Splicing is not permitted. New boards shall be one (1) inch by six (6) inch by six (6) feet dog eared cedar or redwood boards, Architectural Class I, select or select heart. Nails are to be galvanized.

Following replacement of the new portions of fencing, the existing fence pieces shall be attached to the new portions as needed so that a fence meeting ASTM F 537-84a is again standing. The Contractor shall transport and dispose of discarded fencing materials at a landfill permitted to take such waste for disposal. The Contractor shall be responsible for any disposal fees.

Painting shall be done using two coats of exterior paint for wood, rolled on or brushed. Contractor shall clean up and remove any paint spilled on the sidewalk. Spray painting, airless or otherwise, is prohibited. There are no plans to paint the unpainted side of the fence. This work item requires general work clothing.

Basis of Bid

The bid basis shall be per linear foot or per fence post. The bid prices shall include full compensation for labor, wood, nails, paint, tools, equipment, supplies, and incidentals, including allowances for health and safety requirements, needed to repair or replace any portion of the existing fence and haul away discarded portions.

While actual quantities and frequencies may vary and will be determined by the Engineer, for the purpose of bidding, assume sixteen (16) feet of railing, eight (8) linear feet (of fence line) of boards, and two (2) new fence posts and footings will be replaced once during the life of the contract. Also assume that the Sunny Ridge Drive side of the fence will be painted annually.

Bid Item (Bid Unit is Per Linear Foot):

- o Replacement of fence rail (top or bottom);
- o Replacement of fence boards;
- o Painting of fence (One side, two coats).

Bid Item (Bid Unit is Per Fence Post):

Replacement of fence post and footing.

L. Janitorial Services and Grounds Cleanup

The site has three (3) skid mounted buildings, a decontamination trailer, and an administration trailer. Inside these units are three (3) lavatories, one (1) toilet, two (2) showers, and various pieces of furniture. The level of usage of these units will fluctuate greatly with the level of activity at the site. Currently, the only building which is occupied full time is the Guard House.

The Contractor shall perform janitorial services in and on the various site buildings at a frequency determined by the Engineer. Bid Items listed below provide the frequency at which various tasks may be performed. Note, that except for frequency, some Bid Items are duplicates of each other. The various frequencies are provided for the purpose of obtaining bid rates which may be used during the term of the contract. This work item requires general work clothing.

Basis of Bid

During the length of this contract, various levels of cleaning effort will be required. The bid price shall include full compensation for supplying labor, equipment, tools, cleaning and sanitary supplies to perform the tasks below, including allowances for health and safety requirements and transportation and disposal of nonhazardous trash at a landfill permitted to take such waste. The frequency of each task will vary with site activity and will be at the direction of the Engineer.

While actual quantities and frequencies may vary and will be determined by the Engineer, for the purpose of bidding, assume bid items 1.0, 2.0, 4.0 & 5.0, with their indicated frequencies, will be in use during two (2) years of the contract, and bid items 1.1, 2.1, 4.1, and 5.1, with their indicated frequencies, will be in use during one (1) year of the contract. Assume bid item 3.0, with its indicated frequency, will be in use during the entire contract life.

The powerhouse building is excluded from all bid items unless specifically mentioned.

1.0 - Bid Item (Bid Unit is Per Week, Performed Once Weekly):

Clean the toilet and lavatory in the administration trailer, dust all dust collecting surfaces in the four units, sweep the floors in each unit, provide one roll of paper towels, two rolls of toilet paper and an 8 ounce container of soft soap, empty all trash cans. Disposal of all nonhazardous waste must be off-site as no trash bin will be permanently available.

1.1 - Bid Item (Bid Unit is Per Day, Performed Five Times Weekly, Monday through Friday):

Same job duties as in Bid Item 1.0., except provide two (2) rolls of paper towels, four (4) rolls of toilet paper, and one (1) eight (8) ounce container of soft soap per week.

2.0 - Bid Item (Bid Unit is Per Quarter, Performed Once Every Three Months):

Mop the floors in the four units with soap and water. Clean level surfaces (desk tops, etc) using soap and water to wash and rinse. Scrub down shower stalls and doors with cleanser and water.

2.1 - Bid Item (Bid Unit is Per Month, Performed Once Monthly):

Same job duties as in Bid Item 2.0.

3.0 - Bid Item (Bid Unit is Per Quarter, Performed Once Every Three Months):

Sweep the floor in the powerhouse.

4.0 - Bid Item (Bid Unit is Per Semiannually, Performed Once Every Six Months):

Wash windows, inside and out, in the four units with window cleaner.

4.1 - Bid Item (Bid Unit is Per Quarter, Performed Once Every Three Months):

Same duties as in Bid Item 4.0.

5.0 - Bid Item (Bid Unit is Per Quarter, Performed Once Every Three Months):

Inspect the Support Area, especially the periphery, collecting all nonhazardous trash. Empty outdoor trash cans and install new liners. Nonhazardous trash collected will be disposed of off site as no trash bin will be permanently available.

5.1 - Bid Item (Bid Unit is Per Month, Performed Once Monthly:

Same duties as in Bid Item 5.0.

M. Emergency Seep Repair

Occasionally, the hazardous waste seeps up from one or more of the underground sumps. Once at ground level, it quickly solidifies to a hard, black mass. The mass has corrosive properties and emits volatile hydrocarbons and sulfur dioxide vapors. Disturbance of the mass increases the emission rate.

To control area odors and remove the risk of accidental contact by site personnel, these masses must be removed or covered as soon as possible. The Contractor shall use one of the following methods for minimizing the effects of these seeps. The Engineer will determine when emergency seep repairs will be performed, which seeps will be mitigated, and which method of seep repair will be used for each seep area.

Whichever method of seep repair is chosen, the Contractor will at all times adhere to the requirements of the Health and Safety Plan (Item 4.1.R.). This work item requires health and safety protection.

1. Method One

The Contractor shall excavate the seep(s) which are specified by the Engineer. The Contractor shall place the waste in clearly marked fifty-five (55) gallon metal drums (D.O.T. 17H) which are labeled as hazardous waste. The Contractor shall furnish and install double liners, each five (5) mils thick, into the drums before filling each drum. Total depth of the clean-up excavation will be under the direction of the Engineer (less than 5 feet deep, usually one foot deep). The Contractor shall cover the excavated area with polyethylene plastic and shall backfill as specified in Section 4.1(A)(1), Site Cover Repair.

The Contractor shall label each drum with a minimum of one (1) inch high lettering which shall appear on two (2) opposing sides and on the top of each drum. The label shall identify the location of the seep, date the seep was cleaned up, and drum number. The following is an example of a properly completed label:

HAZARDOUS WASTE
FROM:NW CORNER, RAMPARTS #1
7-27-88 Drum # 13

The Contractor shall move the drums to a designated staging area at the site.

2. Method Two

The Contractor shall excavate the seep(s) which are specified by the Engineer. The total depth of the clean-up will be under the direction of the Engineer (less than five (5) feet deep, usually one (1) foot deep). The Contractor shall cover the excavated area with polyethylene plastic and shall backfill as specified in Section 4.1(A)(1), Site Cover Repair.

The Contractor shall transport the excavated soil and waste to a Class I landfill approved to accept CERCLA waste (i.e., a facility that is in full compliance with EPA's off-site disposal policy). (See Attachment 2.)

3. Monitoring Program

During all seep removal operations, the Contractor shall conduct an air monitoring program to provide the data necessary for the protection of the workers and the residents off-site in the surrounding community. The purpose of the on-site monitoring program is to determine the level of vapor and gases around the immediate work area and on and around the perimeter of the site.

The Contractor shall perform air monitoring in Active Work Zones during shallow excavation operations. Air monitoring shall be accomplished with the use of portable monitoring equipment, such as the Interscan Sulfur Dioxide Compact Portable Analyzer for sulfur dioxide (SO2) determination and the Foxboro Organic Vapor Analyzer (OVA) for determination of hydrocarbons (HC). For work zone reference, the OSHA PEL for SO2 is five (5) parts per million (ppm) and for benzene (as an indicator for total HC) is 10 ppm.

The Contractor shall perform integrated personal air sampling from time to time to ensure appropriate respirator selection. The Contractor shall perform total HC sampling by using a personal air sampler with a charcoal tube collection device in accordance with NIOSH method 1501. The Contractor shall perform sulfur dioxide monitoring by using a personal sampling pump and a midget impinger with hydrogen peroxide collection media in accordance with NIOSH method S-308. Analysis will be performed by the Toxic Substance Control Division contract industrial hygiene laboratory.

If SO2 or HC levels in the work zone are detected above background levels, the Contractor shall commence perimeter monitoring. If readings at the perimeter reach any of the response levels shown below, the Site Safety Officer (SSO) shall be notified, and all site work shall cease. The various levels of responses are:

1. Shut Down Alert: These levels have been set to protect the community from unsafe exposure. The SSO shall be immediately notified and work may be shut down.

    - Sulfur Dioxide - 0.5 ppm sustained for five (5) minutes;

- Total Hydrocarbons (THC) - seventy (70) ppm sustained for thirty (30) seconds.

2. Shelter Alert: If these levels are reached, the Site Safety Officer shall notify the appropriate local law enforcement agency so access to the affected areas may be blocked off. The local agency shall advise all persons to stay indoors and keep their doors and windows closed for at least thirty (30) minutes.

   - Sulfur Dioxide - 15 ppm sustained for two (2) minutes;

   - Total Hydrocarbons - 80 ppm sustained for two (2) minutes.

3. Relocation Alert: These alert levels call for evacuation of the site.

   - Sulfur Dioxide - 20 ppm sustained for two (2) minutes;

   - Total Hydrocarbons - 145 ppm sustained for two (2) minutes.

No separate compensation will be made for the air monitoring program during seep removal. Costs for air monitoring shall be calculated into the bid.

Basis of Bid (Method One)

The bid basis for removal of hazardous waste seeps shall be by fifty-five (55) gallon drum, with a fifteen (15) drum minimum. The bid price units shall include full compensation for furnishing all labor, technical personnel, materials, drums, plastic sheeting and fill, tools, equipment (such as back hoe, drum-handling fork lift, supply truck, air monitoring instruments, etc.) mobilization and demobilization, and incidentals to perform the work, including allowances for health and safety requirements.

While actual quantities and frequencies may vary and will be determined by the Engineer, for the purpose of bidding, assume that this method will be used six (6) times during the life of the contract, filling a total of ninety (90) drums. Also assume that five (5) field compaction tests will be made during the life of the contract.

Bid Item (Bid Unit is Per Fifty-five (55) Gallon Drum, Fifteen (15) Drum Minimum):

Hazardous waste removal, drum filling, labeling and transportation, air monitoring, and backfilling of the excavation.

Bid Item (Bid Unit is Per Field Compaction Test):

Conduct field compaction test with written report

Basis of Bid (Method Two)

The bid basis for removal of the hazardous waste seep mass shall be by cubic yard, with a 10 cubic yard minimum. The bid price units shall include full compensation for furnishing all labor, materials, tools, equipment (including air monitoring instruments), mobilization and demobilization, and incidentals to perform the work, including allowances for health and safety requirements and transportation and disposal costs for shipment to a Class I waste disposal site which is approved to take CERCLA waste (see Attachment 2).

While actual quantities and frequencies may vary and will be determined by the Engineer, for the purpose of bidding, assume that this method will be used twice during the life of the contract, and will include excavating, transporting and disposing of a total of eighty (80) cubic yards. Assume that this method will not be used until the third year of the contract. Also assume that three (3) field compaction tests will be made during the life of the contract.

Bid Item (Bid Unit is Per Cubic Yard, 10 Yard Minimum):

Hazardous waste removal, transportation, disposal and backfilling.

Bid Item (Bid Unit is Per Field Compaction Test):

Conduct field compaction test with written report

N. Grade and Gravel Roads/Support Areas

Road configuration is shown on Figure 4. The Support Area is shown in Figure 1.

1. Roads

None of the roads are currently graveled. All of the roads are passable, although some roads are not used enough to be defined. Some portions of the roads are severely rutted and will require grading before aggregate is placed. Other portions of the roads will require filling and compaction before aggregate is placed. The road outside the eastern Support Area perimeter, which goes north to the top of the Ramparts Area, has had approximately one hundred (100) linear feet cut out. This must be replaced before aggregate is placed.

When directed by the Engineer, the Contractor shall improve/restore the existing roads shown in Figure 4. The exact areas of the roadways requiring improvement/restoration will be determined by the Engineer. Roads shall be ten (10) feet wide or as directed by the Engineer. Low sections of roads shall be eliminated to establish proper drainage and to provide a smooth course for vehicles. Low areas shall be filled in with a series of twelve (12) inch loose lifts, each lift being tested for compaction at least once, and again after every fifty (50) cubic yards of fill. Compaction shall be to ninety-five (95) percent per ASTM D 1557-78 at a moisture content of optimum to optimum plus four (4) percent. Acceptable methods for determining in the field the compaction of fill materials are ASTM D 1556-82, D 2167-84, and D 2922-81. Locations where field compaction tests are to be run will be determined by the Engineer. Areas requiring less than a twelve (12) inch loose lift shall be compacted by rolling, four (4) pass minimum, but not tested. Severely rutted areas and high areas shall be graded so as to drain to existing catch basins or drainage swales or as directed by the Engineer. After the roadway is filled and/or graded to the satisfaction of the Engineer, the Contractor shall furnish, place, compact, and grade to drain an Aggregate Base over the roadway. The average thickness of the Aggregate Base shall be six (6) inches, measured after compaction. Aggregate Base compaction shall be achieved by rolling, making four (4) passes, but will not be tested.

On some portions of the road, as indicated on Figure 4, the addition of a geotextile fabric, as specified in Section 4.1(A)(1), shall be included under the road bed to allow all weather access.

Aggregate Base shall be Class 2, as specified in Section 26 of the State of California Department of Transportation Standard Specifications, July, 1984.

The Contractor shall obtain the fill material from on-site borrow areas as directed by the Engineer.

When directed by the Engineer, the Contractor shall institute water-only dust control by water truck during these activities. By arrangement with the City of Fullerton, the Contractor can obtain fresh water from a fire hydrant outside the main gate.

This work item requires general work clothing.

2. Support Area

The Support Area was covered with an Aggregate Base approximately four (4) years ago. Drainage problems (pooling) currently exist in an area about ten thousand (10,000) square feet in size which must be corrected.

When directed by the Engineer, the Contractor shall improve/restore the area within the Support Area. The exact areas of the Support Area requiring improvement/restoration will be determined by the Engineer. Low areas shall be filled in as specified above in Section 4.1(N)(1), Roads. Badly rutted areas and high areas shall be graded so as to drain to existing catch basins or drainage swales or as directed by the Engineer. After the Support Area is filled and/or graded to the satisfaction of the Engineer, the Contractor shall furnish, place, and grade and compact to drain an Aggregate Base over the specified areas. The average thickness of the Aggregate Base shall be two (2) inches, measured after compaction. Aggregate Base compaction shall be achieved by rolling, making four (4) passes, but will not be tested.

Aggregate Base shall be Class 2, as specified in Section 26 of the State of California Department of Transportation Standard Specifications, July, 1984.

The Contractor shall obtain fill material from a borrow area on top of the hill at the north end of Ramparts Exclusion Area.

When directed by the Engineer, the Contractor shall institute water-only dust control by water truck during these activities. By arrangement with the

City of Fullerton, the Contractor can obtain fresh water from a fire hydrant outside the main gate.

This work item requires general work clothing.

Basis of Bid:

The bid basis shall be by linear foot, square foot, or per day, as specified. The bid price for restoring and regrading the roads and support areas, and for dust control shall include full compensation for all labor, materials (except fill dirt), equipment (including earth moving and compacting vehicles), mobilization and demobilization, water, water meter, tools, and incidentals, including allowances for health and safety requirements, needed to do the work.

While actual quantities and frequencies may vary and will be determined by the Engineer, for the purpose of bidding, assume three thousand six hundred (3600) linear feet of road and two hundred forty thousand (240,000) square feet of Support Area (pad) will be improved/restored during the first year of the contract. The use of a geotextile fabric in conjunction with road restoration is anticipated along one thousand four hundred (1,400) linear feet of road. Also assume that due to wear and tear and erosion, nine hundred (900) linear feet of road and twenty-four thousand (24,000) square feet of Support Area (pad) will be restored during each of the last two years of the contract. Assume that the water truck will be needed fifteen (15) days during the life of the contract.

Bid Item (Bid Unit is Per Liner Foot):

- Restore and regrade road with gravel;
- Restore and regrade road with geotextile fabric and gravel.

Bid Item (Bid Unit is Per Square Foot):

Restore and regrade Support Area with gravel.

Bid Item (Bid Unit is Per Day):

Fresh water tank truck (1500 to 2500 gallons minimum capacity) with driver.

O. Storage Tank Rental

At various times, tanks are temporarily needed at the site to hold well development water, monitoring well water, truck wash rack waste water and other unforeseen uses. The Contractor shall furnish rental storage tanks on an as needed basis as directed by the Engineer.

Tank contents are assumed to be hazardous based on the California Code of Regulations (CCR), Title 22, Division 4, Chapter 30, Article 11. Tank outlets shall be located on the tank's side close to the tank's bottom and shall be valved. Plastic tanks and fittings shall be acid, alkaline, and weather resistant.

The tanks shall be six thousand five hundred (6,500) to seven thousand (7,000) gallon capacity, upright cylindrical, covered and equipped with a manhole at the top for entering, inspecting, and filling, and have a two and one-half (2 1/2) inch valve.

The tanks shall be located in the northeast corner of the Support Area (Figure 1). The Contractor shall prepare the existing ground to provide a suitable foundation for a tank pad. The pad shall consist of four (4) to six (6) inches of clean fill sand contained by an eight (8) inch reinforced concrete curb. The sand shall be leveled and compacted to provide a suitable foundation on which to erect the tanks. The tanks shall be oriented on the pad so that the outlet valves are all facing the same direction. The pad shall be sized such that there will be a minimum six (6) feet of working area around each tank. This work item requires general work clothing.

To provide access to the manholes, the Contractor shall construct a catwalk. The catwalk may be either wood or metal. Stairs shall have a six (6) inch tread and a riser of four (4) to six (6) inches. Two (2) thirty-six (36) inch high guard rails shall be fitted to both the stairway and catwalk. The guard rails shall be equipped with a thirty-six (36) inch wide "lift out" section at each tank manhole opening to provide access to the manhole. The catwalk shall be capable of supporting, at a minimum, a seven hundred fifty (750) pound load. This work item requires general work clothing.

Basis of Bid:

The bid basis shall be per month, square foot, or lump sum, as specified. The bid prices shall include full compensation for all labor, materials, tools, monthly rental (including freight, delivery, and set up/tear

down charges), and incidentals, including allowances for health and safety requirements, needed to furnish temporary storage tanks, tank pad and catwalk.

While actual quantities and frequencies may vary and will be determined by the Engineer, for the purpose of bidding, assume three (3) storage tanks will be rented, providing a minimum storage capacity of 19,500 gallons, during the first eighteen (18) months of the contract. Assume that one (1) catwalk will be needed during the life of the contract.

Bid Item (Unit Price is Per Month):

Monthly rental of temporary storage tank.

Bid Item (Unit Price is Lump Sum):

Construction of tank pad.

Bid Item (Unit Price is Lump Sum):

Design and construction of catwalk.

P. Removal and Disposal of Contents From Storage Tanks

Periodically, the various storage tanks at the site will need to be emptied of their contents. The contents which are removed from the storage tanks must be transported and disposed of at a treatment or disposal facility which is permitted to accept CERCLA waste. The tank contents are assumed to be hazardous based on California Code of Regulations (CCR), Title 22, Division 4, 30, Article 11. Previous tank contents have had pH ranges from 3.2 to 10.3 and a solids content (mostly soil) ranging from 0.0 to 50.0 percent by volume.

Utilities at the site are not available in locations where tanks are or will be located. Storage tanks are not equipped with pumps and one tank is underground.

At the direction of the Engineer, the Contractor shall empty the contents from the storage tanks and transport the tank contents to the appropriate treatment or disposal facility in accordance with the following protocol:

1) Emptying of Storage Tank Contents

The Contractor shall empty liquids and solids (mostly drill cuttings or mud) from the on-site

storage tanks. The liquids shall be emptied into a five thousand (5,000) gallon vacuum truck and transported to a facility, which is permitted to take such liquid waste, for treatment or disposal.

At the direction of the Engineer, the Contractor shall fluidize the solid contents before removal from the storage tanks. The solids shall also be emptied into a five thousand (5,000) gallon vacuum truck and transported to a facility, which is permitted to take such waste, for treatment or disposal. During the removal of the solids from storage tanks, the Contractor shall provide and operate an air compressor (100 ACFM minimum) with air hoses and air lances to fluidize the storage tank solids. The Contractor shall supply a laborer to maintain the air compressor and move the air lances around in the storage tank when emptying storage tanks containing solids. The Engineer will determine when the fluidization of storage tank solids is required.

The Contractor shall comply with all applicable health and safety requirements. This work item requires health and safety protection.

2. Transportation and Disposal of Storage Tank Contents

The Contractor shall supply the five thousand (5,000) gallon vacuum truck, with driver, described above in Section 4.1(P(1), which is used to receive and transport the contents removed from on-site storage tanks. The Contractor shall transport the contents to a Class 1 facility (either for treatment or disposal) permitted to handle such waste. All transport shall be performed by a State of California permitted hauler. The Contractor shall be responsible for disposal fees.

Basis of Bid:

The basis of bid is per tank emptied of liquid waste or per tank emptied of solid waste, as specified. The bid price for removal of liquid contents shall include full compensation for all labor, materials, supplies, tools, hoses, vacuum truck with driver, and incidentals needed to remove the liquid contents from the storage tanks. The bid price for removal of solid contents shall include full compensation for all labor, materials, supplies, tools, hoses, fittings for fluidizing (when required), vacuum truck with driver, laborer, air compressor, air hoses and lances, and incidentals needed to remove the

solid contents from the storage tanks. The bid prices shall also include full compensation for transportation, tare and gross weighings, disposal at a Class 1 facility, preloading tank truck vessel cleanings, and allowances for health and safety requirements.

While actual quantities and frequencies may vary and will be determined by the Engineer, for the purpose of bidding, assume 15,000 gallons of liquids and 5,000 gallons of solids will be removed and transported to a treatment or disposal facility per year.

Bid Item (Bid Unit is Per Gallon):

- o Empty, transport, and dispose of liquid contents;
- o Empty, transport, and dispose of solid contents.

Q. Decontamination of Storage Tanks

Decontamination of various tanks used at the site will be necessary when the tanks will be used for significantly different service (such as changing from hazardous to nonhazardous service) or before rented tanks are returned to their owners. Tanks to be decontaminated will be various sizes and may contain widely varying levels of sludge and other forms of contaminants. Tank contents are assumed to be hazardous based on the California Code of Regulations (CCR), Title 22, Division 4, Chapter 30, Article 11.

The Contractor shall decontaminate the tank(s) when directed by the Engineer. At no time will this decontamination work involve vessel entry by Contractor personnel. Such entry is prohibited.

Decontamination efforts shall be completed within fifteen (15) working days of receipt of the Engineer's written order directing the Contractor to commence decontamination. The work shall be considered complete when the Engineer notifies the Contractor that decontamination has been achieved or that further efforts will not be fruitful.

Utilities at the site are not available in locations where tanks would be located. By arrangement with the City of Fullerton, the Contractor can obtain fresh water from a fire hydrant outside the main gate. Equipment needed may include, but not be limited to, the following:

-5,000 gallon vacuum truck with driver
-Fresh water tank truck

-Fresh water supply pump
-Pressures hoses and nozzles
-Vacuum hoses
-Vacuum pump
-Level C Personal Protective Equipment (PPE), safety belt and tie-off rope for personnel on top of tank
-Air quality monitoring instruments for hydrogen sulfide, sulfur dioxide, and total hydrocarbons
-Portable air compressor (100 ACFM minimum), air hoses, and air lances

The Contractor shall decontaminate storage tanks by steam cleaning. The Contractor shall furnish a five thousand (5,000) gallon vacuum truck and driver to receive wash water from storage tanks while they are being decontaminated. The Contractor shall comply with the requirements of the Health and Safety Plan (Item 4.1.R.). During the decontamination process, the Contractor shall institute an air monitoring program in accordance with the Health and Safety Plan. This work item requires health and safety protection.

The Contractor shall transport and dispose of the decontamination wash water at a treatment or disposal facility permitted to handle such liquid waste. During tank decontamination washings, it is anticipated that the vacuum truck receiving the wash water will be "on spot" for several hours before receiving a full load. The Contractor shall be responsible for any disposal fees.

Basis of Bid:

The basis of bid shall be per tank per decontamination event. The bid price shall include full compensation for all labor, materials, supplies, tools, hoses, fittings, mobilization and demobilization, water, water meters, equipment, vehicles (fresh water truck, vacuum truck with driver), and incidentals, including allowances for health and safety requirements, needed to decontaminate storage tanks and receive the decontamination wash water. The bid price shall also include full compensation for transportation, tare and gross weighings, disposal at a Class 1 facility, and preloading tank truck vessel cleanings.

While actual quantities and frequencies may vary and will be determined by the Engineer, for the purpose of bidding, assume one (1) tank per decontamination event. Also assume six (6) decontamination events will occur during the life of the contract.

Bid Item (Unit Bid is Per Tank Per Decontamination Event):

Decontamination of storage tank

R. Health and Safety

The Contractor shall be responsible for the health and safety of his employees or other persons working under his direction, and for planning and implementing appropriate health and safety requirements as they pertain to the Contractor's personnel.

The Contractor shall prepare and implement a Health and Safety Plan for the site maintenance projects. DHS will review and approve the Health and Safety Plan. The Contractor shall ensure that steps are taken to protect on- and off-site personnel from hazards resulting from the site maintenance work. The Contractor shall consider the health and safety plan as one of the site maintenance requirements. Applicable health and safety concerns include:

- Specific workplace and personnel protection requirements of OSHA and any other applicable regulatory body;
- Medical monitoring of involved personnel;
- Level of worker protection;
- "Clean area" establishment and designation of other suitable working zones (including a zone for observers and visitors);
- Decontamination of personnel outer garments and equipment;
- Emergency procedures, including training of all personnel involved in site work (and means to brief visitors and observers in safety procedures).

Contractor shall refer to Attachment 4-A (McColl Health and Safety Plan for Guard Service and Site Maintenance) and Attachment 4-B (McColl Health and Safety Plan for

Seep Repair) as guidance documents to assist Contractor in the development of the Health and Safety Plan for the contract activities described in this Statement of Work.

Basis of Bid (Health and Safety Plan):

The bid basis shall be a lump sum price to cover all labor, materials and incidentals to provide a Health and Safety Plan for all site maintenance activities, as listed in this Statement of Work.

Bid Item (Bid Unit is Lump Sum):

Write Health and Safety Plan

4.2 CLEANUP OF CONSTRUCTION AREAS

Contractor shall avoid contamination of the project area. Contractor shall not dump waste oil, fuel, rubbish, or other materials on the ground.

Contractor shall remove from the site all equipment, unused materials, temporary facilities and other miscellaneous items resulting from or used in the implementation remedial action. Contractor shall replace or repair any facility damaged during the activities. Site cleanup shall be completed to the satisfaction of State.

--End of Statement of Work--

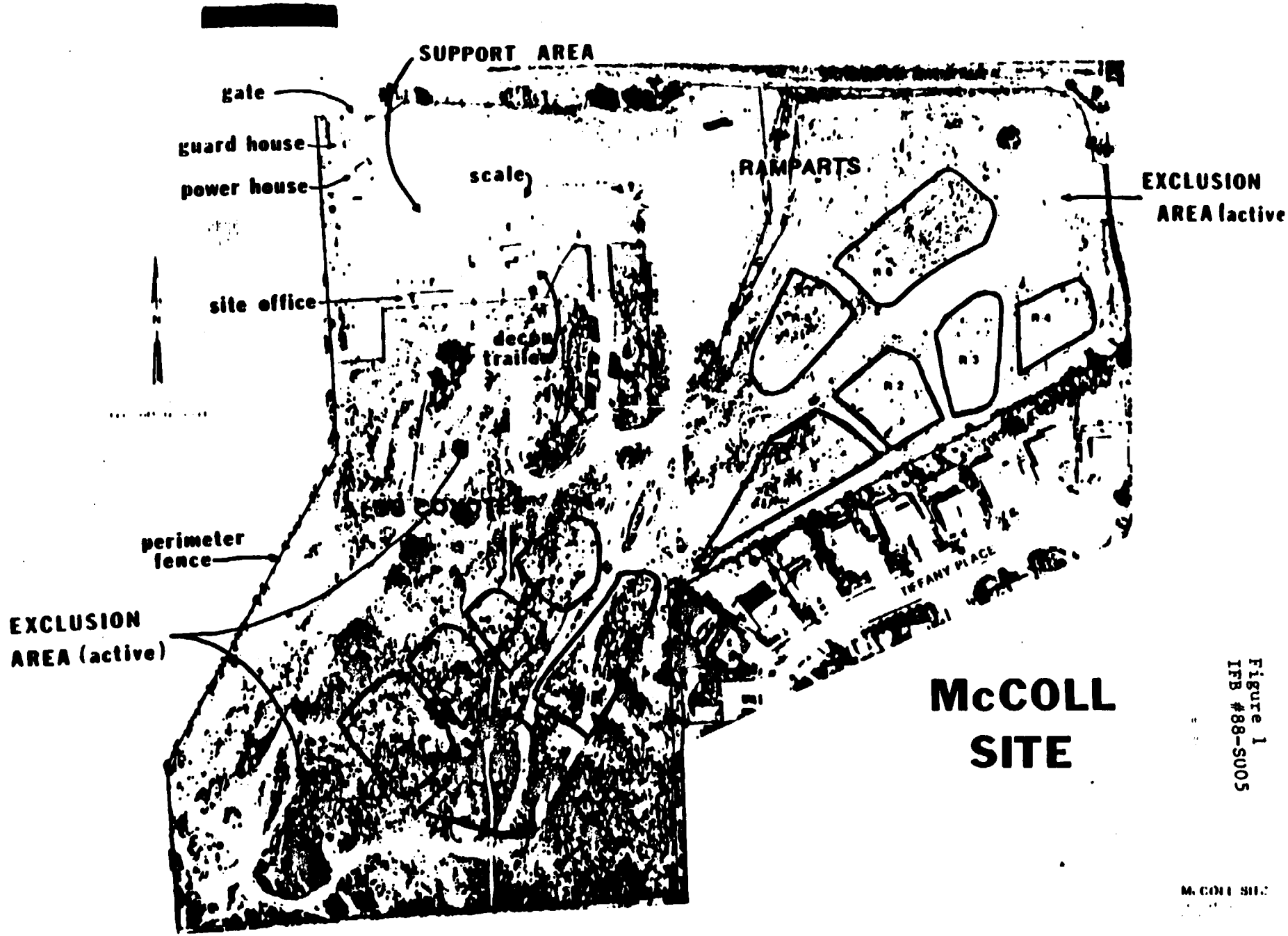


Figure 1
IFB #88-S005

FIGURE 2: WELL LOCATIONS

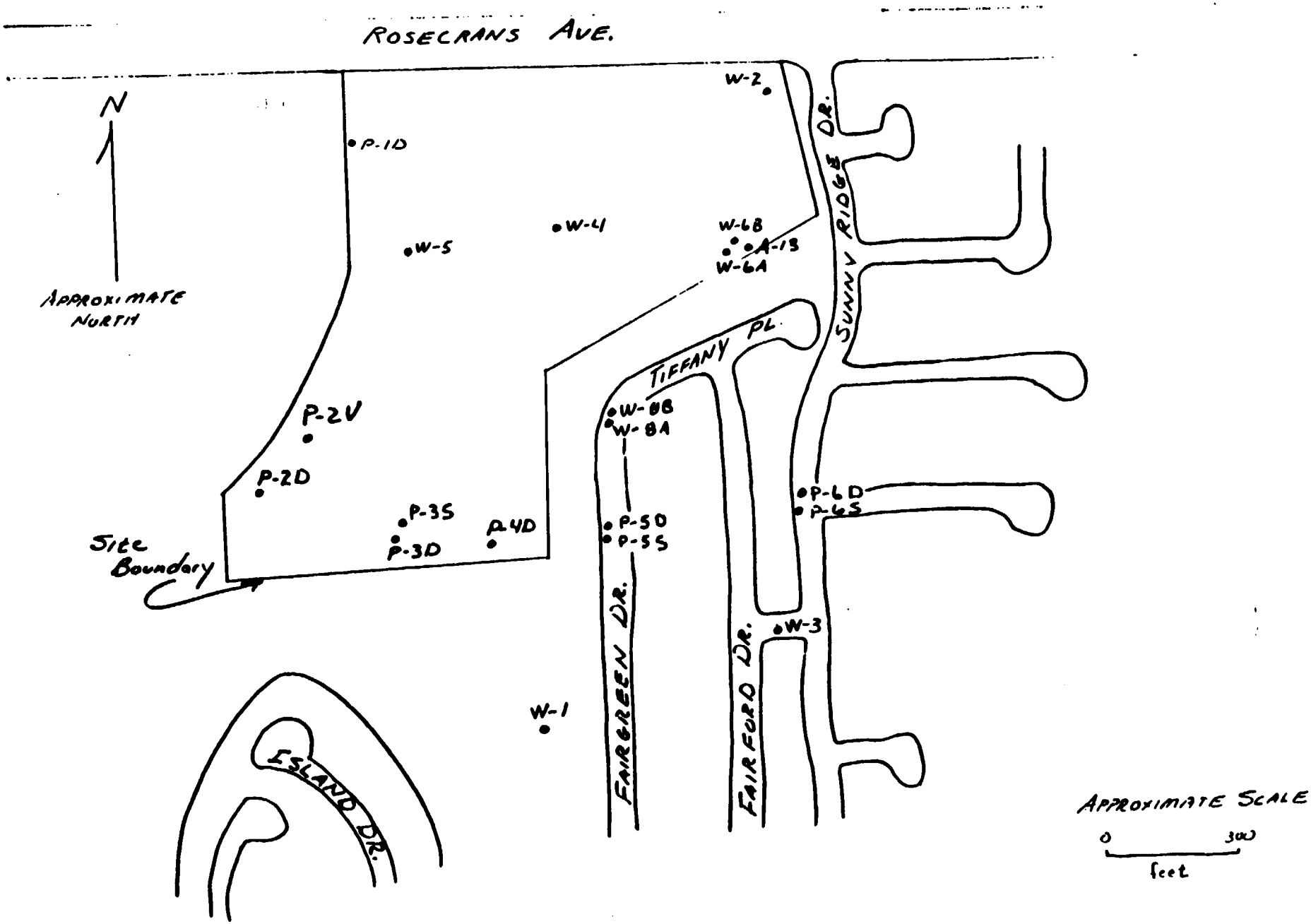


Figure 2-A

Illustration of Typical Surface Completion For On-Site Well

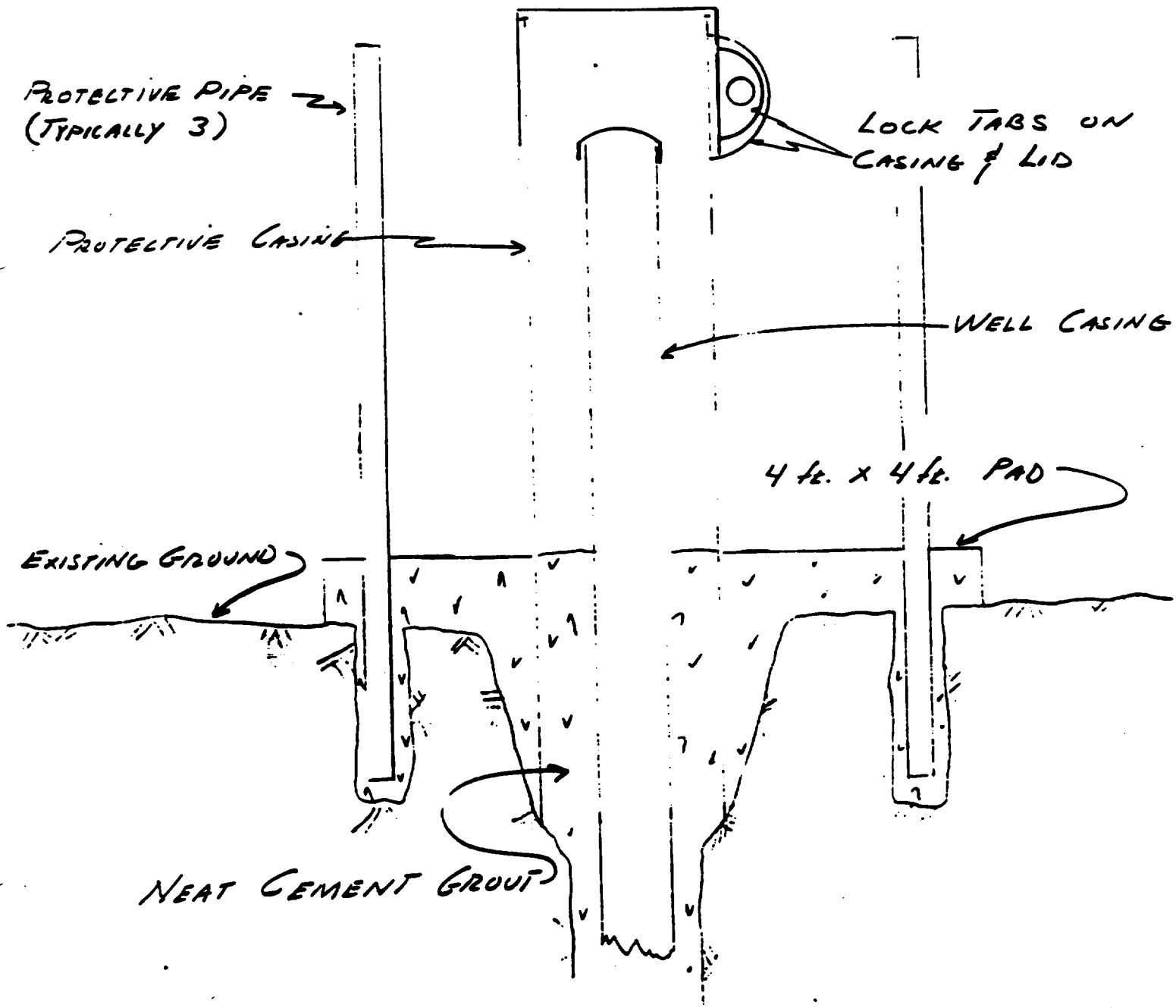


Figure 2-B

Illustration of Typical Surface Completion in Street for Well With Submersible Pump

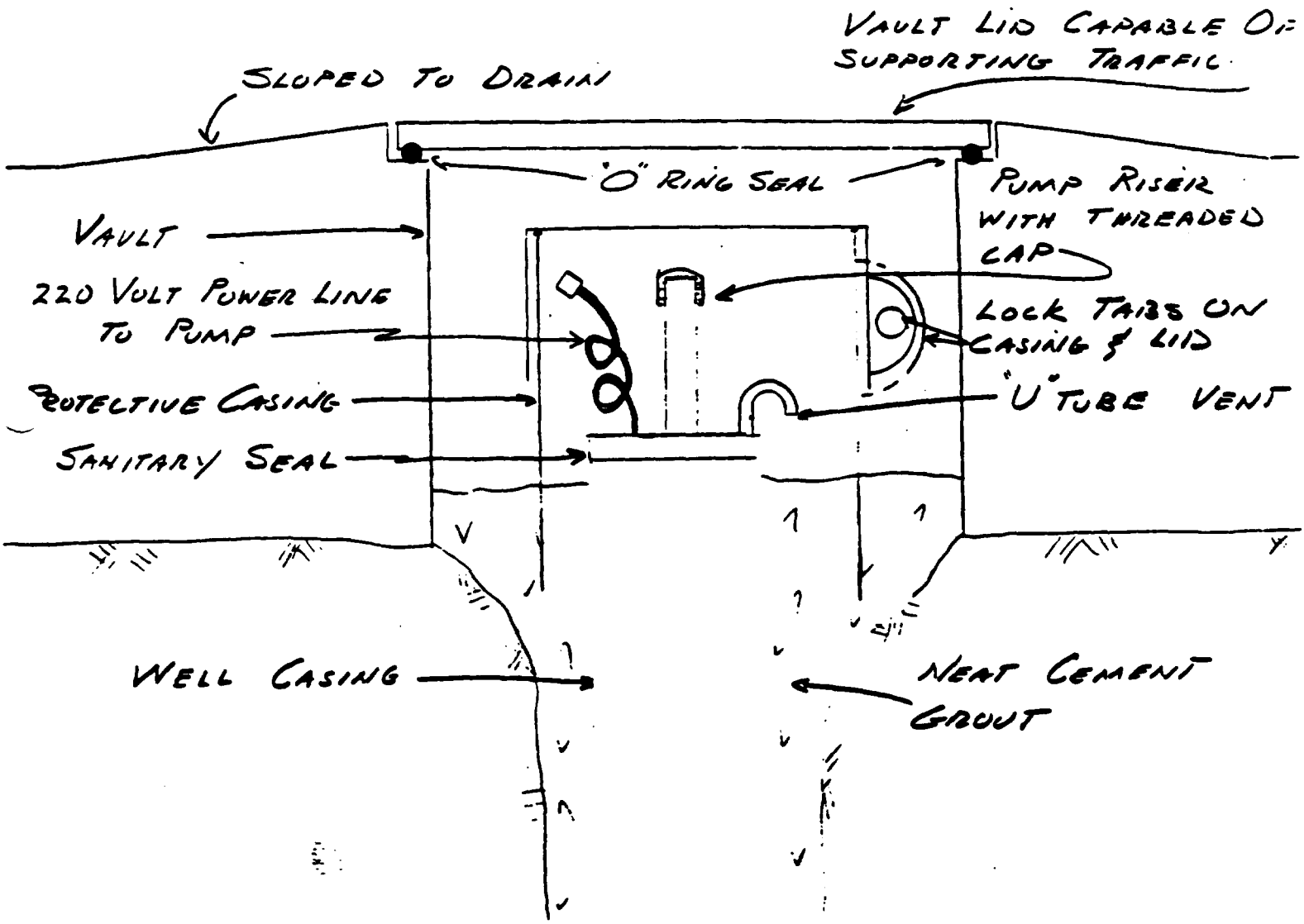
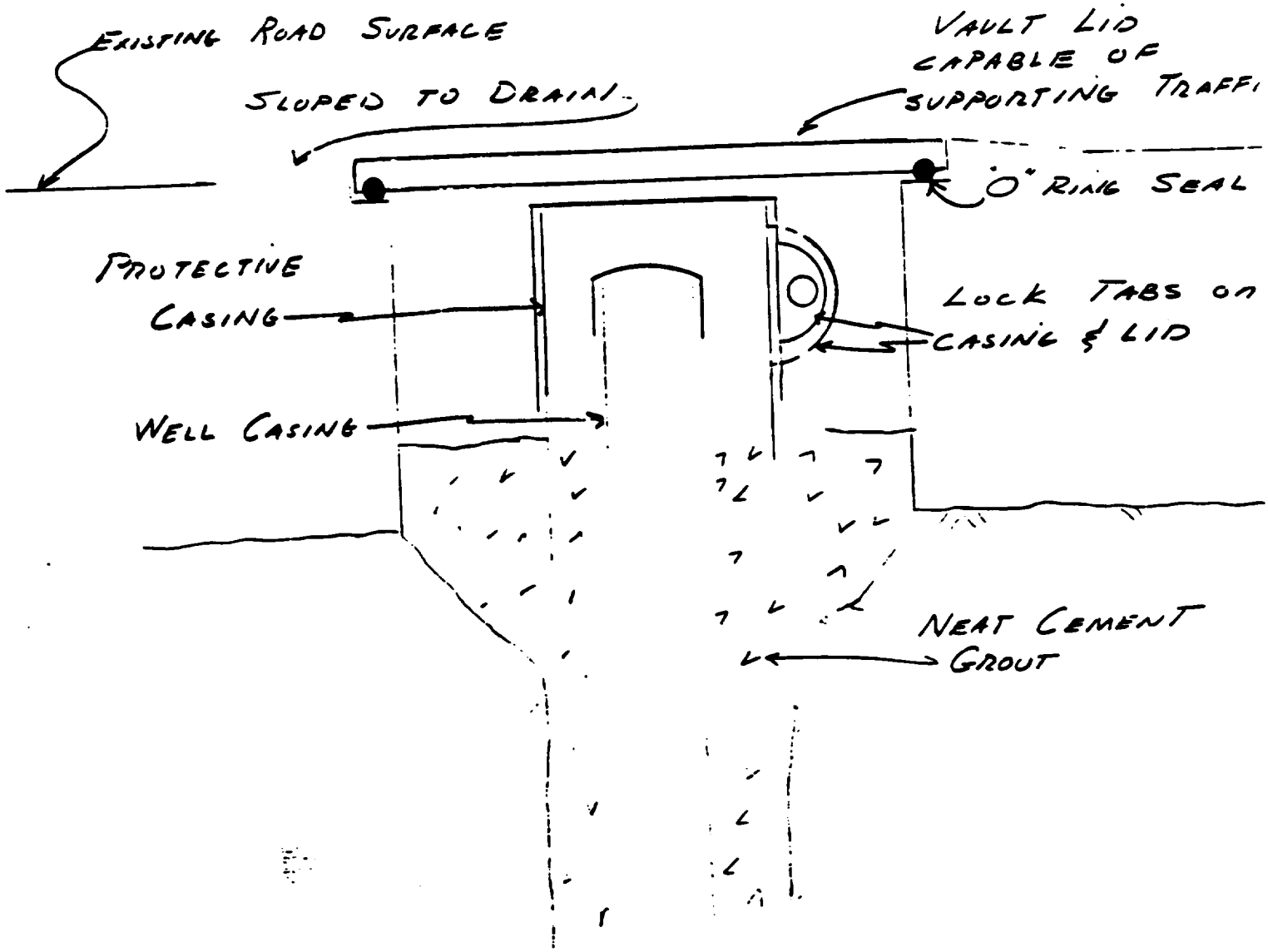
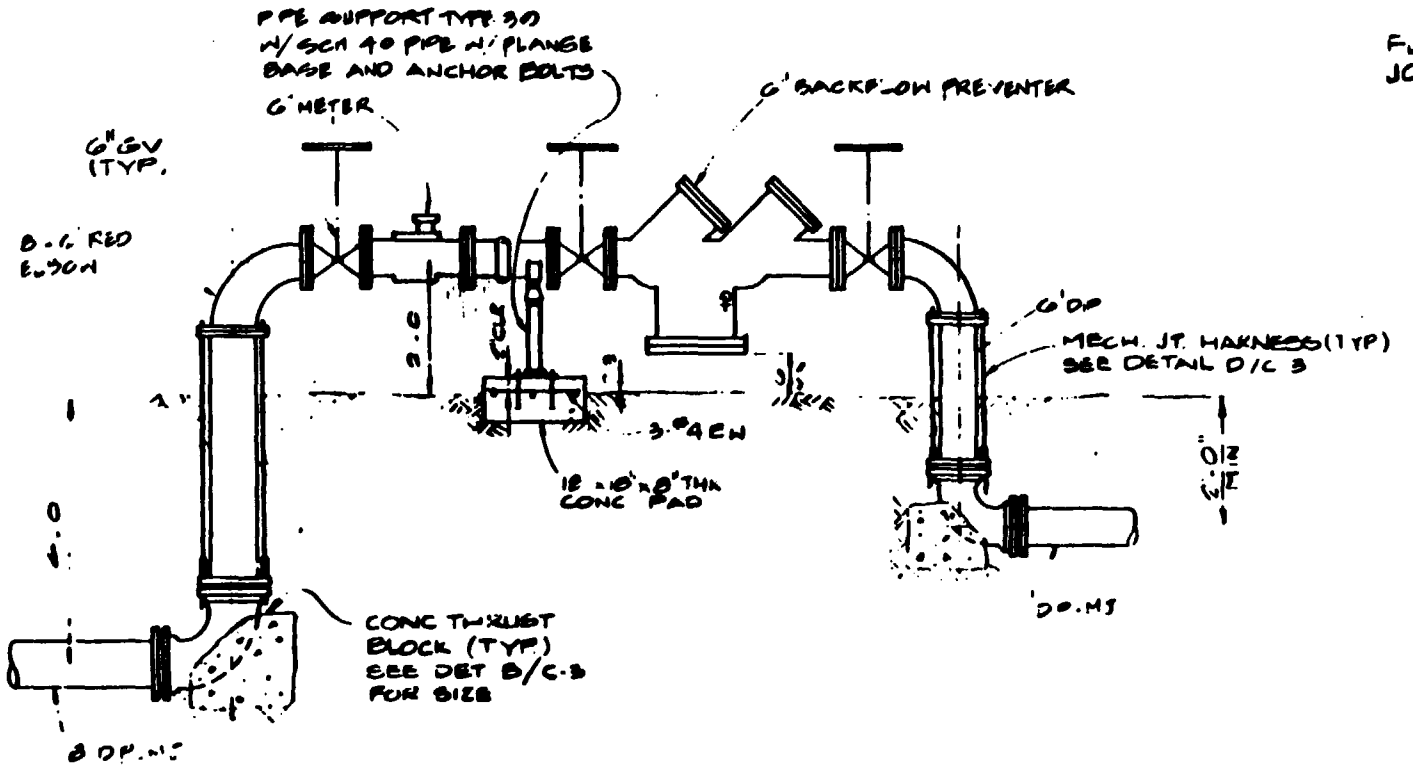


Illustration of Typical Surface Completion in Street for Well W/out Pump

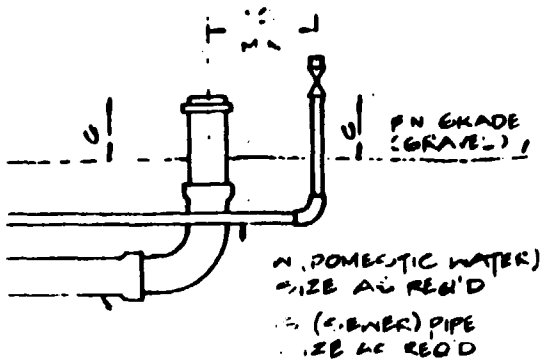


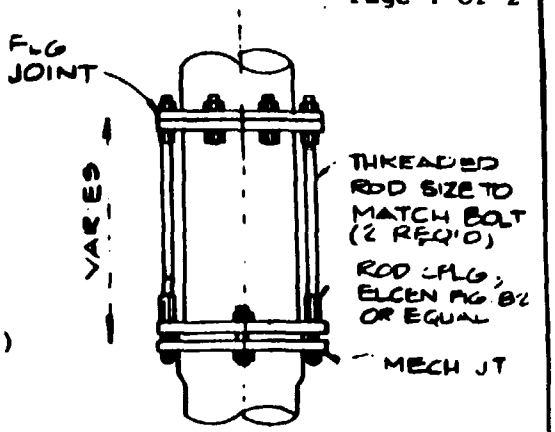


WATER METER & BACKFLOW PREVENTER DETAIL

C / C.3

3/8" = 1.0"





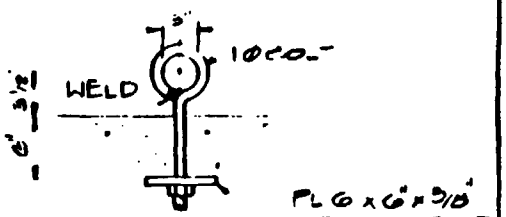
MECHANICAL JOINT HARNESS DETAIL

D / C.3

N.T.S.

DETAIL

N.T.S.



TIE DOWN DETAIL

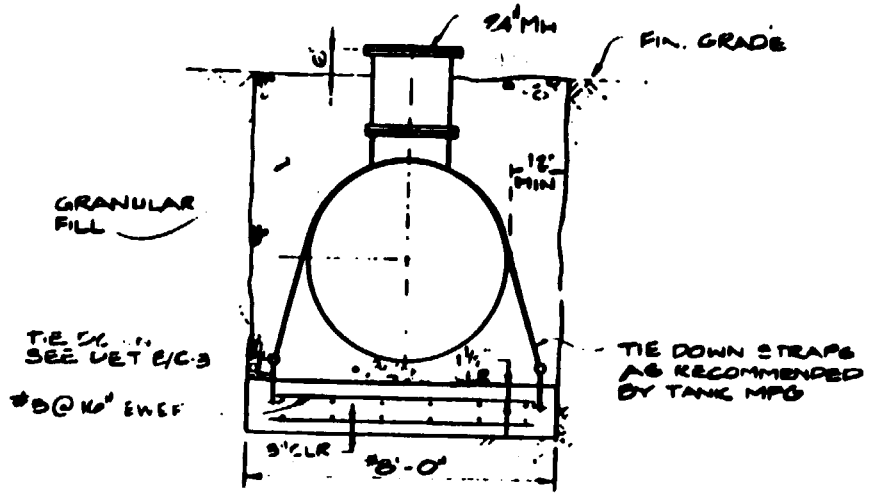
E / ...

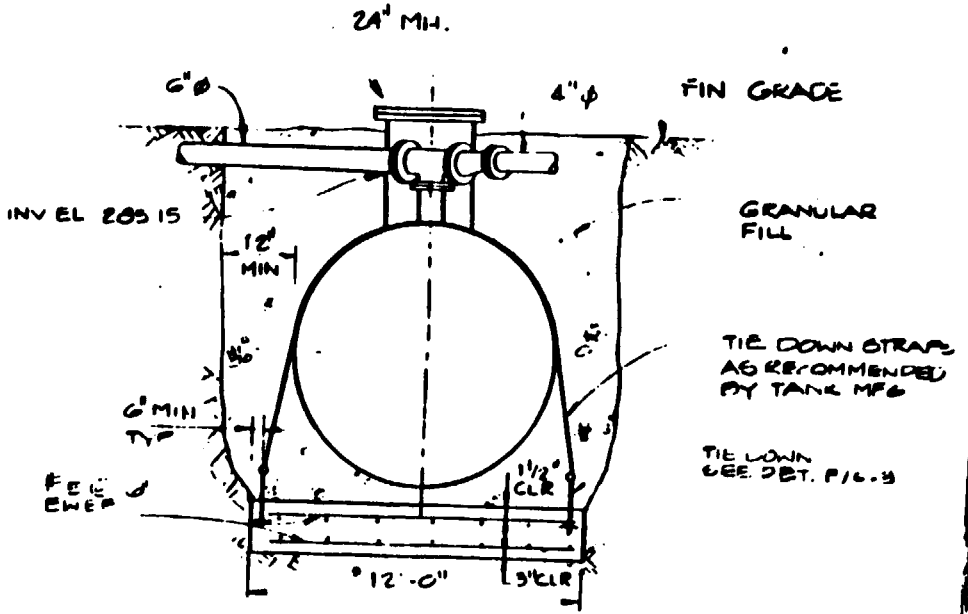
N.T.S.

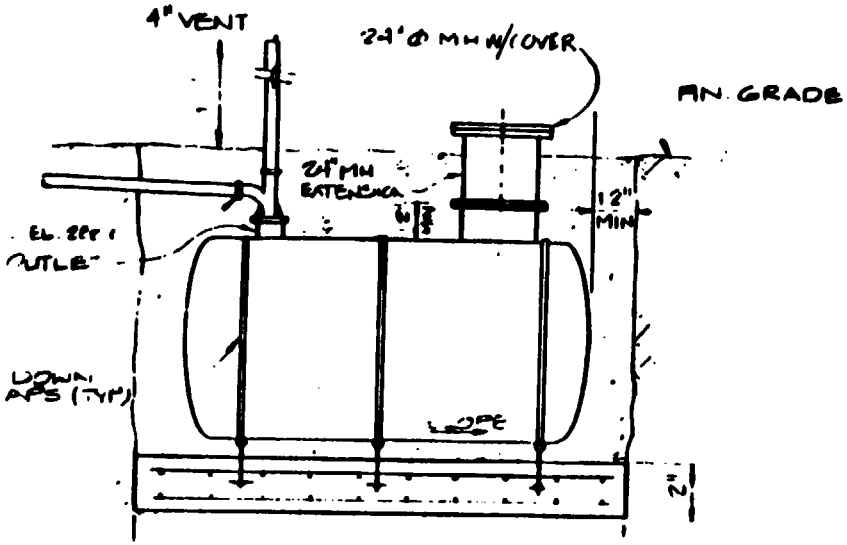
[redacted]

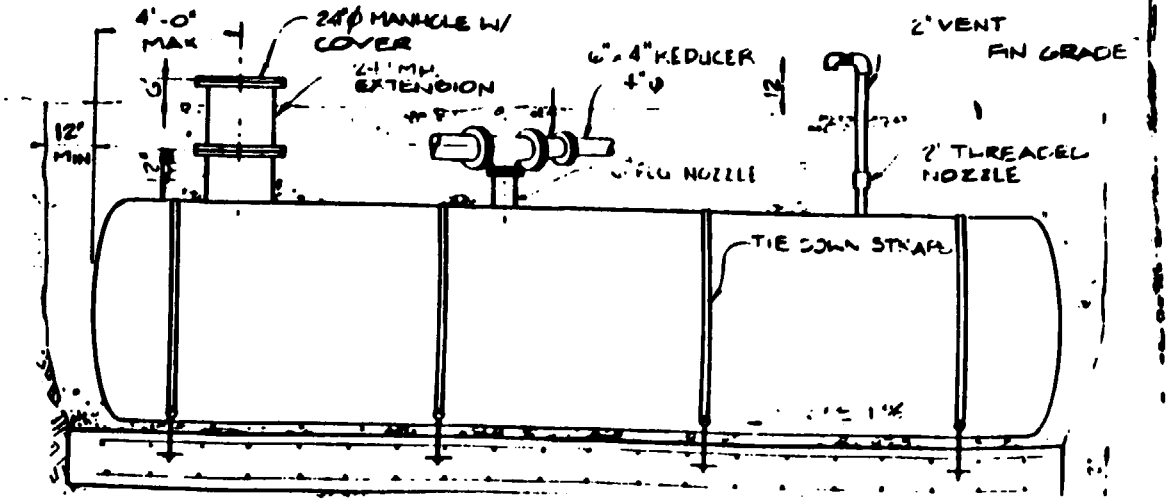
UTILITY STUB-OUT DETAIL (F / C.2)

N.T.S



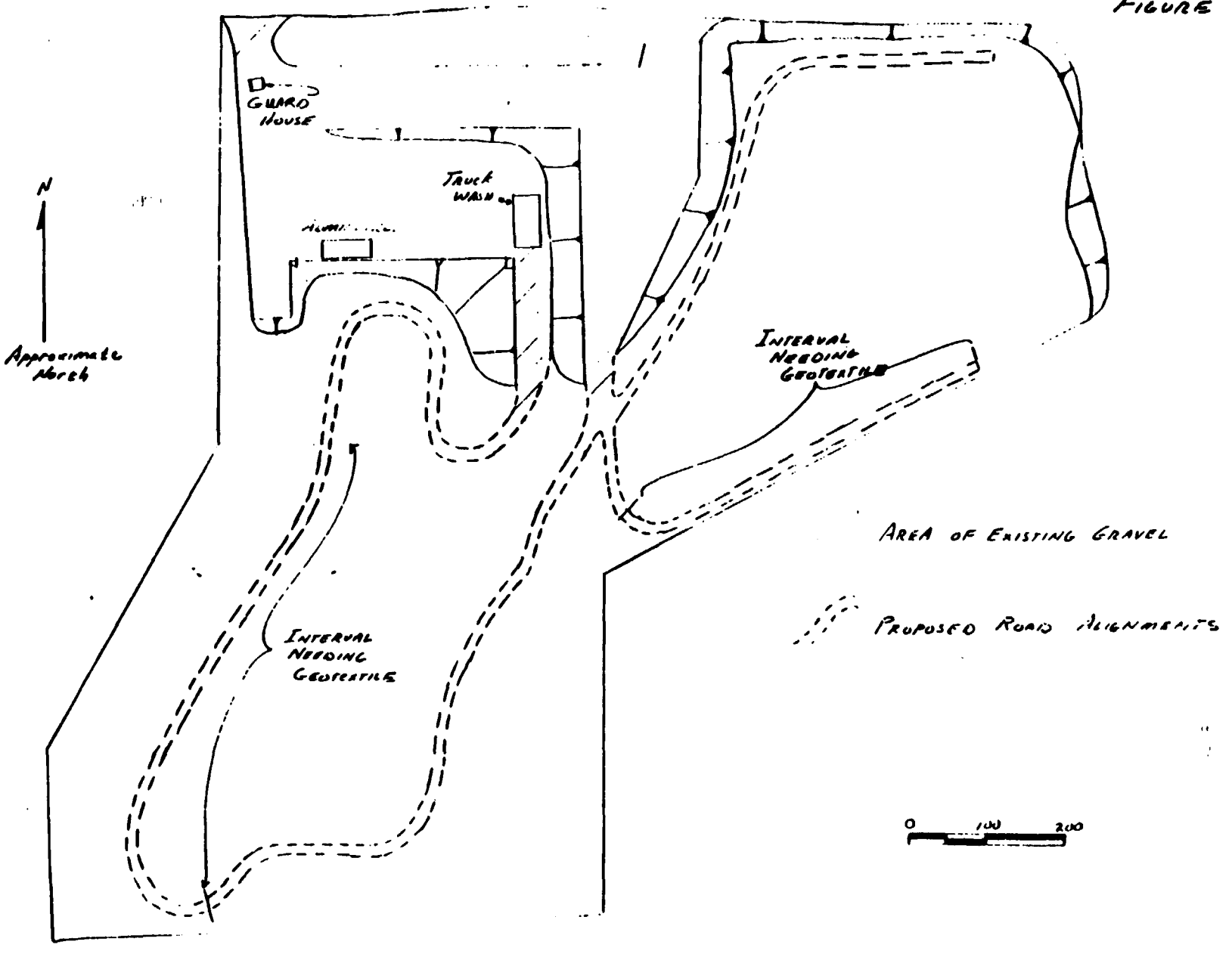






[redacted]

FIGURE 4


GUARD HOUSE
TRUCK WASH
N
Approximate North
INTERVAL NEEDING GEOTEXTILE
INTERVAL NEEDING GEOTEXTILE
AREA OF EXISTING GRAVEL
PROPOSED ROAD ALIGNMENTS
0
100
200

Attachment 1

Pertinent Well Data

The well to be abandoned consists of a 6-5/8 inch iron surface casing extending to approximately 198 feet, broken into two parts at an unknown depth (suspected to be roughly 120 feet). The well consists of two-inch inside diameter (2" I.D.) PVC casing and screen which extends to a depth of approximately 248 feet. The well "seal" contains an unknown amount of cement.

The Contractor shall ream the existing surface casing to its total depth. The Contractor shall then pull the surface casing to the extent possible by convential means. If the surface casing cannot be pulled by conventional means, the Contractor will procure a down-the-hole casing cutter and cut the casing at fifty (50) feet below the ground surface. The Contractor shall then pull the now-separated fifty foot section.

After pulling the surface casing, the hole will be grouted from the bottom of the reamed interval to within five (5) feet of the ground surface.

The grouting will be done by pumping the specified cement grout through a tremie. The tremie will be positioned no more than five (5) feet above hole bottom and will be left in place until the grout is within five feet of the surface, at which time the entire tremie may be pulled.

Attachment 1-A

WELL NO.	DEPTH	DIAMETER	PUMP	SURFACE COMPLETION
W-1	245 ft.	4 inch (PVC)	No pump	Subsurface Vault
W-2	273 ft.	4 inch (Steel)	submersible	Subsurface Vault
W-3	232 ft.	5 inch (Steel)	No pump	Subsurface Vault
A-13	45 ft.	2 inch (PVC)	No pump	Above ground casing
W-4	250 ft.	2 inch (PVC)	No pump	Subsurface Vault
W-5	248 ft.	2 inch (Steel/PVC)	bladder	Subsurface Vault
W-6a	50 ft.	2 inch (Steel/PVC)	No pump	Above ground casing
W-6b	260 ft.	2 inch (Steel/PVC)	No pump	Above ground casing
W-8a	107 ft.	2 inch (PVC)	No pump	Subsurface Vault
W-8b	310 ft.	2 inch (Steel/PVC)	No pump	Subsurface Vault
P-1D	248 ft.	5 inch (PVC/Steel)	submersible	Subsurface Vault
P-2D	235 ft.	5 inch (PVC/Steel)	submersible	Subsurface Vault
P-3S	70 ft.	4 inch (PVC/Steel)	No pump	Subsurface Vault
P-3D	255 ft.	5 inch (PVC/Steel)	submersible	Subsurface Vault
P-4D	240 ft.	5 inch (PVC/Steel)	submersible	Subsurface Vault
P-5S	81 ft.	4 inch (PVC/Steel)	No pump	Subsurface Vault
P-5D	265 ft.	5 inch (PVC/Steel)	submersible	Subsurface Vault
P-6S	64 ft.	4 inch (PVC/Steel)	No pump	Subsurface Vault
P-6D	235 ft.	5 inch (PVC/Steel)	submersible	Subsurface Vault
P-2V	51 ft.	1/2 inch (PVC)	No pump	Subsurface Vault

REVISED PROCEDURES FOR IMPLEMENTING OFF-SITE RESPONSE ACTIONS

I. INTRODUCTION

The off-site policy describes procedures that should be observed when a response action under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) or Section 7003 of RCRA involves off-site storage, treatment or disposal of CERCLA waste. The procedures also apply to actions taken jointly under CERCLA and another statute.

The purpose of the off-site policy is to avoid having CERCLA wastes contribute to present or future environmental problems by directing these wastes to facilities determined to be environmentally sound. It is EPA's responsibility to ensure that the criteria for governing off-site transfer of CERCLA waste result in decisions that are environmentally sensible and that reflect sound public policy. Therefore, in developing acceptability criteria, the Agency has applied environmental standards and other sound management practices to ensure that CERCLA waste will be appropriately managed.

EPA issued the original off-site policy in May 1985. See "Procedures for Planning and Implementing Off-Site Response Actions", memorandum from Jack W. McGraw to the Regional Administrators. That policy was published in the Federal Register on November 5, 1985. The 1986 amendments to CERCLA, the Superfund Amendments and Reauthorization Act (SARA), adopted EPA's policy for off-site transfer of CERCLA wastes, with some modifications. CERCLA §121(d)(3) requires that hazardous substances, pollutants or contaminants transferred off-site for treatment, storage or disposal during a CERCLA response action be transferred to a facility operating in compliance with §§3004 and 3005 of RCRA and other applicable laws or regulations. The statute also requires that receiving units at land disposal facilities have no releases of hazardous wastes or hazardous constituents. Any releases from other units at a land disposal facility must also be controlled by a RCRA or equivalent corrective action program. While the original policy required compliance with RCRA and other applicable laws, SARA goes beyond the original policy, primarily by prohibiting disposal at units at a land disposal facility with releases, rather than allowing the Agency to judge whether the releases constituted environmental conditions that affected the satisfactory operation of a facility.

The off-site policy has been revised in light of the mandates of SARA. This revised policy also extends the SARA concepts to certain situations not specifically covered by the statute. These requirements apply to CERCLA decision documents signed, and RCRA §7003 actions taken, after enactment of SARA. Specifically, this policy covers:

- Extending SARA's "no release" requirement to all RCRA units receiving CERCLA waste, not just units at RCRA land disposal facilities;

- Expanding SARA's release prohibition to include releases of CERCLA hazardous substances, in addition to releases of RCRA hazardous waste and hazardous constituents;

- Addressing releases from other units at RCRA treatment and storage facilities; and

- Addressing off-site transfer to non-RCRA facilities.

The revised policy also reinterprets the May 1985 policy as it now applies to CERCLA decision documents signed, and RCRA §7003 actions taken, prior to the enactment of SARA.

The revised off-site policy is effective immediately upon issuance. It is considered to be an interim policy as key elements of the policy will be incorporated in a proposed rule to be published in the Federal Register. As part of that rulemaking, the policy will be subject to public comment. Comments received during that period may cause additional revisions to the policy. The final rule will reflect the final policy under CERCLA §121(d)(3) and EPA will issue a revised implementation policy memorandum if necessary.

II. APPLICABILITY

There are a number of variables which will determine whether and how the off-site policy applies: waste type, authority, funding source, and whether the decision document or order supporting the clean-up was signed before or after the enactment of SARA (i.e., before or after October 17, 1986). In order to determine which elements of the policy apply to a specific CERCLA cleanup each factor must be considered.

The first factor to consider is the type of waste to be transferred. The revised policy applies to the off-site treatment, storage or disposal of all CERCLA waste. CERCLA wastes include RCRA hazardous wastes and other CERCLA hazardous substances, pollutants and contaminants. RCRA hazardous wastes are either listed or defined by characteristic in 40 CFR Part 261. CERCLA hazardous substances are defined in 40 CFR 300.6.

Because RCRA permits and interim status apply to specific wastes and specific storage, treatment or disposal processes, the Remedial Project Manager (RPM) or On-Scene Coordinator (OSC) must determine that the facility's permit or interim

status authorizes receipt of the wastes that would be transported to the facility and the type of process contemplated for the wastes. Therefore, it is important that facility selection be coordinated with RCRA personnel.

A CERCLA hazardous substance that is not a RCRA hazardous waste or hazardous constituent (i.e., non-RCRA waste) may be taken to a RCRA facility if it is not otherwise incompatible with the RCRA waste, even though receipt of that waste is not expressly authorized under interim status or in the permit. Non-RCRA wastes can also be managed at non-RCRA facilities. Criteria applicable to CERCLA wastes that can be disposed of at non-Subtitle C facilities are discussed later in this revised policy.

The second factor to consider in determining whether this revised policy applies is the statutory authority for the action. This revised off-site policy applies to any remedial or removal action involving the off-site transfer of any hazardous substance, pollutant, or contaminant under any CERCLA authority or under RCRA §7003. This policy also applies to response actions taken under §311 of the Clean Water Act, except for cleanups of petroleum products. The policy also covers cleanups at Federal facilities under §120 of SARA.

The third factor to assess is the source of funding. The revised policy applies to all Fund-financed response actions, whether EPA or the State is the lead agency. The policy does not apply to State-lead enforcement actions (even at NPL sites) if no CERCLA funds are involved. It does apply to State-lead enforcement actions where EPA provides any site-specific funding through a Cooperative Agreement or Multi-Site Cooperative Agreement, even though the State may be using its own enforcement authorities to compel the cleanup. Similarly, non-NPL sites are covered by this policy only where there is an expenditure of Fund money or where the cleanup is undertaken under CERCLA authority.

The final factor that affects how this revised policy applies is the date of the decision document. As noted earlier, there are two classes of actions subject to slightly different procedures governing off-site transfer: first, those actions resulting from pre-SARA decision documents or RCRA §7003 orders issued prior to October 17, 1986, are subject to the May 1985 policy as updated by this revised policy; and second, those actions resulting from post-SARA decision documents or RCRA §7003 orders issued after October 17, 1986, are subject to the requirements of SARA as interpreted and expanded by this revised policy. Although the procedures in this policy are similar for these two classes of actions, there are important differences (e.g., the requirements pertaining to

releases from other units at a facility) that will be highlighted throughout this document.

Compliance with the revised procedures is mandatory for removal and remedial actions. However, there is an emergency exemption for removals if the OSC determines that the exigencies of the situation require off-site treatment, storage or disposal without following the requirements. This exception may be used when the OSC believes that the threat posed by the substances makes it imperative to remove the substances immediately and there is insufficient time to observe these procedures without endangering public health, welfare or the environment. In such cases, the OSC should consider temporary solutions (e.g., interim storage) to allow time to locate an acceptable facility. The OSC must provide a written explanation of his or her decision to use this emergency exemption to the Regional Administrator within 60 days of taking the action. In Regions in which authority to make removal decisions has not been fully delegated by the Regional Administrator to the OSC, the decisions discussed above must be made by the Regional official to whom removal authority has been delegated. This emergency exemption is also available to OSC's taking response actions under §311 of the Clean Water Act.

III. DEFINITIONS

A. Release

For the purposes of this policy, the term "release" is defined here as it is defined by §101(22) of CERCLA, which is repeated in 40 CFR 300.6 of the NCP, and the RCRA §3008(h) guidance ("Interpretation of Section 3008(h) of the Solid Waste Disposal Act", memorandum from J. Winston Porter and Courtney M. Price to the Regional Administrators, et al, December 16, 1985). To summarize, a release is any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injection, escaping, leaching, dumping or disposing to the environment. This includes releases to surface water, ground water, land surface, soil and air.

A release also includes a substantial threat of a release. In determining whether a substantial threat of release exists, both the imminence of the threat and the potential magnitude of the release should be considered. Examples of situations where a substantial threat of a release may exist include a weakened or inadequately engineered dike wall at a surface impoundment, or a severely rusted treatment or storage tank.

De minimis releases from receiving units are exempt; that is, they are not considered to be releases under the off-site

policy. De minimis releases are those that do not adversely affect public health or the environment, such as releases to the air from temporary opening and closing of bungs, releases between landfill liners of 1 gallon/acre/day or less, or stack emissions from incinerators not otherwise subject to Clean Air Act permits. Releases that need to be addressed by implementing a contingency plan would not normally be considered de minimis releases.

Federally-permitted releases, as defined by CERCLA §101(10) and 40 CFR 300.6, are also exempt. These include discharges or releases in compliance with applicable permits under RCRA, the Clean Water Act, Clean Air Act, Safe Drinking Water Act, Marine Protection, Research and Sanctuaries Act, and Atomic Energy Act or analogous State authorities.

For purposes of this policy, an interim status unit in RCRA ground-water assessment monitoring (under 40 CFR 265.93) or a permitted unit in compliance monitoring (under 40 CFR 264.99) is not presumed to have a release. EPA will evaluate available information, including the data which led to a determination of the need for assessment or compliance monitoring, data gathered during assessment monitoring, and any other relevant data, including that gathered from applicable compliance inspections. A determination of unacceptability should be made when information will support the conclusion that there is a probable release to ground water from the receiving unit. Finding a release can happen at any time before, during or after an assessment or compliance monitoring program.

On the other hand, it is not necessary to have actual sampling data to determine that there is a release. An inspector may find other evidence that a release has occurred, such as a broken dike or feed line at a surface impoundment. Less obvious indications of a release might also be adequate to make the determination. For example, EPA could have sufficient information on the contents of a land disposal unit, the design and operating characteristics of the unit, or the hydrogeology of the area in which the unit is located to conclude that there is or has been a release to the environment.

B. Receiving Unit

The receiving unit is any unit that receives off-site CERCLA waste:

(1) for treatment using BDAT, including any pre-treatment or storage units used prior to treatment;

(2) for treatment to substantially reduce its mobility,

toxicity or persistence in the absence of a defined BDAT; or

(3) for storage or ultimate disposal of waste not treated to the previous criteria.

Note that the acceptability criteria may vary from unit to unit, and that the receiving unit may vary from transfer to transfer.

C. Other Units

Other units are all other regulated units and solid waste management units (SWMU's) at a facility that are not receiving units.

D. Controlled Release

In order to be considered a controlled release, the release must be addressed by a RCRA corrective action program (incorporated in a permit or order) or a corrective action program approved and enforceable under another applicable Federal or delegated State authority.

E. Relevant Violations

Relevant violations include Class I violations as defined by the RCRA Enforcement Response Policy (December 21, 1984, and subsequent revisions) at or affecting a receiving unit. A Class I violation is a significant deviation from regulations, compliance order provisions or permit conditions designed to:

- Ensure that hazardous waste is destined for and delivered to authorized facilities;
- Prevent releases of hazardous waste or constituents to the environment;
- Ensure early detection of such releases; or
- Compel corrective action for releases.

Recordkeeping and reporting requirements (such as failure to submit the biennial report or failure to maintain a copy of the closure plan at the facility) are generally not considered to be Class I violations.

Violations affecting a receiving unit include all ground-water monitoring violations unless the receiving unit is outside the waste management area which the ground-water monitoring system was designed to monitor. Facility-wide Class I violations (such as failure to comply with financial

responsibility requirements, inadequate closure plan, inadequate waste analysis plan, inadequate inspection plan, etc.) that affect the receiving unit are also relevant violations.

Violations of State or other Federal laws should also be examined for relevance, considering the significance of the requirement that is being violated; the extent of deviation from the requirement; and the potential or actual threat to human health or the environment.

F. Relevant Release

A relevant release under this revised policy includes:

- Any release or significant threat of release of a hazardous substance (defined in 40 CFR 300.6) not previously excluded (i.e., de minimis releases or permitted releases) at all units of a RCRA Subtitle C land disposal facility and at receiving units of a RCRA Subtitle C treatment or storage facility; and
- Environmentally significant releases of any hazardous substance not previously excluded at non-receiving units at RCRA Subtitle C treatment and storage facilities and at all units at other facilities.

G. Relevant Conditions

Relevant conditions include any environmental conditions (besides a relevant violation) at a facility that pose a significant threat to public health, welfare or the environment or that otherwise affect the satisfactory operation of the facility.

H. Responsible Agency

Determinations of acceptability to receive an off-site transfer of CERCLA waste will be made by EPA or by States authorized for corrective action under §3004(u) of RCRA. References in this document to the "responsible Agency" refer only to EPA Regions or to States with this authority.

I. Responsible Government Official

The responsible government official is that person authorized in the responsible Agency to make acceptability determinations under this revised policy.

IV. ACCEPTABILITY CRITERIA

A. Acceptability Criteria for Wastes Generated Under Pre-SARA Decision Documents

CERCLA wastes from actions resulting from pre-SARA decision documents and pre-SARA RCRA §7003 orders may go to a facility meeting the following criteria:

- o There are no relevant violations at or affecting the receiving unit; and
- o There are no relevant conditions at the facility (i.e., other environmental conditions that pose a significant threat to public health, welfare or the environment or otherwise affect the satisfactory operation of the facility).

In order to determine if there is a relevant violation, an appropriate compliance inspection must be conducted no more than six months before the expected date of receipt of CERCLA waste. This inspection, at a minimum, must address all regulated units. This inspection may be conducted by EPA, a State or an authorized representative. When a State conducts the inspection, it should determine the facility's compliance status. Where a violation or potential violation comes to EPA's attention (e.g., through a citizen complaint or a facility visit by permit staff), the Region or State is expected to investigate whether a violation occurred as soon as is reasonably possible.

The May 1985 policy does not refer specifically to releases. Rather, a corrective action plan is required for relevant conditions. Therefore, in some cases, a facility receiving CERCLA wastes from an action subject to a pre-SARA decision document may not need to institute a program to control releases. Releases will be evaluated by the responsible Agency to determine whether such releases constitute relevant conditions under this policy.

The activities related to determining acceptability, providing notice to facilities, regaining acceptability and implementation procedures are discussed in the "Implementation" section of this document, and apply to off-site transfers of waste generated under pre-SARA and post-SARA decision documents.

2. Acceptability Criteria for Wastes Generated Under Post-SARA Decision Documents

Under this revised policy, there are three basic criteria that are used to determine the acceptability of a facility to receive off-site transfers of CERCLA waste generated under a post-SARA decision document or post-SARA RCRA §7003 cleanup. The criteria are:

- There must be no relevant violations at or affecting the receiving unit;
- There must be no releases from receiving units and contamination from prior releases at receiving units must be addressed as appropriate; and
- Releases at other units must be addressed as appropriate.

The last two criteria are applied somewhat differently, depending on the type of facility. These differences are described below.

1. Criteria Applicable to All RCRA Subtitle C Treatment, Storage and Disposal Facilities. The first criterion that applies to all Subtitle C facilities is that there can be no relevant violations at or affecting the receiving unit. As discussed earlier, this determination must be based on an inspection conducted no more than six months prior to receipt of CERCLA waste.

A second element that applies to all Subtitle C facilities is that there must be no releases at receiving units. Releases from receiving units, except for de minimis releases and State- and Federally-permitted releases, must be eliminated and any prior contamination from the release must be controlled by a corrective action permit or order under Subtitle C, as described in the next section.

The final criterion that applies to all Subtitle C facilities, is that the facility must have undergone a RCRA Facility Assessment (RFA) or equivalent facility-wide investigation. This investigation addresses EPA's affirmative duty under CERCLA §121(d)(3) to determine that there are no releases at the facility.

Releases of RCRA hazardous waste or hazardous constituents and CERCLA hazardous substances are all included under the policy. While the RFA need not focus on identifying releases of hazardous substances that are not RCRA hazardous wastes or hazardous constituents, to the extent such releases are discovered in an RFA or through other means, they will be

considered the same as a release of hazardous waste or hazardous constituents.

o Additional Criteria Applicable to RCRA Subtitle C Land Disposal Facilities. Land disposal facilities must meet additional requirements imposed by SARA and this policy. The term "land disposal facility" means any RCRA facility at which a land disposal unit is located, regardless of whether the land disposal unit is the receiving unit. Land disposal units include surface impoundments, landfills, land treatment units and waste piles.

As stated earlier, there must be no releases at or from receiving units. In addition, releases from other units at a land disposal facility must be controlled under a corrective action program. The RFA will help determine whether there is a release. In addition, land disposal facilities must have received a comprehensive ground-water monitoring evaluation (CME) or an operation and maintenance (O&M) inspection within the last year.

Units at RCRA Subtitle C land disposal facilities receiving CERCLA waste that is also RCRA hazardous waste must meet the RCRA minimum technology requirements of RCRA §3004(o). Only where a facility has been granted a waiver can a land disposal unit not meeting the minimum technology requirements be considered acceptable for off-site disposal of CERCLA waste that is RCRA hazardous waste.

o Criteria Applicable to Subtitle C Treatment and Storage Facilities. The criterion for controlling releases from other units does not apply to all releases at treatment and storage facilities, as it does at land disposal facilities. Releases from other units at treatment and storage facilities must be evaluated for environmental significance and their effect on the satisfactory operation of the facility. If determined by the responsible Agency to be environmentally significant, releases must be controlled by a corrective action program under an applicable authority. Releases from other units at treatment and storage facilities determined not to be environmentally significant do not affect the acceptability of the facility for receipt of CERCLA waste.

2. Criteria Applicable to RCRA Permit-by-Rule Facilities. This revised policy is also applicable to facilities subject to the RCRA permit-by-rule provisions in 40 CFR 270.60. These include ocean disposal barges or vessels, injection wells and publicly owned treatment works (POTWs). Permit-by-rule facilities receiving RCRA hazardous waste must have a RCRA permit or RCRA interim status. RCRA permit-by-rule facilities must also receive an inspection for compliance with applicable RCRA permit or interim status requirements. In addition, these

facilities (and other non-RCRA facilities) should be inspected by the appropriate inspectors for other applicable laws.

In general, except for POTWs (discussed below), these facilities will be subject to the same requirements as RCRA treatment and storage facilities. That is, there can be no releases of hazardous waste, hazardous constituents or hazardous substances from receiving units. There also can be no relevant violations at or affecting the receiving unit, as confirmed by an inspection conducted no more than six months prior to the receipt of CERCLA waste. Releases from other units determined by the responsible Agency to be environmentally significant must be controlled by an enforceable agreement under the applicable authority.

Criteria for discharge of wastewater from CERCLA sites to POTWs can be found in a memorandum titled, "Discharge of Wastewater from CERCLA Sites into POTWs," dated April 15, 1986. That memorandum requires an evaluation during the RI/FS process for the CERCLA site to consider such points as:

- the quantity and quality of the CERCLA wastewater and its compatibility with the POTW;
- the ability of the POTW to ensure compliance with applicable pretreatment standards;
- the POTWs record of compliance with its NPDES permit; and
- the potential for ground-water contamination from transport to or impoundment of CERCLA wastewater at the POTW.

Based on a consideration of these and other points listed in the memorandum, the POTW may be deemed appropriate or inappropriate for receipt of CERCLA waste.

3. Criteria Applicable to Non-Subtitle C Facilities. In some instances, it may be appropriate to use a non-Subtitle C facility for off-site transfer: for example, PCB disposal is regulated under the Toxic Substances Control Act (TSCA); nonhazardous waste disposal is regulated under Subtitle D of RCRA and applicable State laws; and disposal of radionuclides is regulated under the Atomic Energy Act. At such facilities, all releases are treated in the same manner as releases from other units at Subtitle C treatment and storage facilities. That is, the responsible Agency should make a determination as to whether the release is environmentally significant and, if so, the release should be controlled by a corrective action program under the applicable Federal or State authority.

Requirements for the disposal of PCBs are established in 40 CFR 761.60. Generally, these regulations require that whenever disposal of PCBs is undertaken, they must be incinerated, unless the concentrations are less than 50 ppm. If the concentrations are between 50 and 500 ppm, the rule provides for certain exceptions that provide alternatives to the incineration requirements. The principal alternative is disposal in a TSCA-permitted landfill for PCBs. If a TSCA landfill is the receiving unit for PCBs, then that facility is subject to the same criteria applicable if a RCRA land disposal unit is the receiving unit; i.e., no relevant violations, no releases at the receiving unit and controlled releases at other units. PCBs at levels less than 50 ppm may be transported to acceptable Subtitle D facilities as discussed previously.

V. IMPLEMENTATION

A. Determining Acceptability

Acceptability determinations under the off-site policy will be made by EPA or by States authorized for corrective action under §3004(u) of RCRA. Where States have such authority, the State may make acceptability determinations for facilities in the State in consultation with EPA. Regardless of a State's authorization status, the Region and States should establish, in the Superfund Memorandum of Agreement, mechanisms to ensure timely exchange of information, notification of facilities and coordination of activities related to the acceptability of facilities and potential selection of facilities for off-site transfer. The Regions and States also need to establish or enhance coordination mechanisms with their respective RCRA program staffs in order to ensure timely receipt of information on inspections, violations and releases. These agreements can be embodied in State authorization Memoranda of Agreement, State grant agreements, or State-EPA enforcement agreements.

The responsible government official in the Region or State in which a hazardous waste facility is located will determine whether the facility has relevant violations or releases which may preclude its use for off-site transfer of CERCLA wastes. Each Region and State should have a designated off-site coordinator responsible for ensuring effective communication between CERCLA response program staff and RCRA enforcement staff within the Regional Offices, with States, and with other Regions and States.

The off-site coordinator should maintain a file of all information on the compliance and release status of each commercial facility in the Region or State. This information should be updated based on the results of State- or

EPA-conducted compliance inspections or other information on these facilities.

CERCLA response program staff should identify potential off-site facilities early in the removal action or the remedial design process and check with the appropriate Regional and/or State off-site coordinator(s) regarding the acceptability status of the facilities. If one or more facilities is identified that has not received an inspection within the last six months, the Regional off-site coordinator(s) should arrange to have such inspection(s) conducted within a timefrane dictated by the project schedule. The CERCLA REM/FIT contractor may conduct the inspection under the direction of the Deputy Project Officer. If contractor personnel are used, the Region should ensure that such personnel are adequately trained to conduct the inspections.

Responsible Agencies should base their acceptability determinations on an evaluation of a facility's compliance status and, as appropriate, whether the facility has releases or other environmental conditions that affect the satisfactory operation of the facility. States not authorized for HSWA corrective action may assist EPA in making the acceptability determination by determining a facility's compliance status (based on a State inspection) and providing this information to EPA. Regions and States should use the following types of information to make acceptability determinations:

- State- or EPA-conducted inspections. EPA will continue to assign high priority to conducting inspections at commercial land disposal, treatment and storage facilities. Facilities designated to receive CERCLA waste must be inspected within six months of the planned receipt of the waste. In addition, land disposal facilities must have received a comprehensive ground-water monitoring inspection (CME) or an operation and maintenance (O&M) inspection within the last year, in accordance with the timeframes specified in the RCRA Implementation Plan (RIP).

- RCRA Facility Assessments (RFAs). To be eligible under this policy, a RCRA Subtitle C facility must have had an RFA or equivalent facility-wide investigation. The RFA or its equivalent must be designed to identify existing and potential releases of hazardous waste and hazardous constituents from solid waste management units at the facility.

- Other data sources. Other documents such as the facility's permit application, permit, Ground Water Task Force report, ground-water monitoring data or

ground-water assessment report can contain information on violations, releases or other conditions. Relevant information from these documents should also be used to determine a facility's acceptability to receive waste under the off-site policy.

B. Notice Procedures

EPA expects that Regions and States will take timely and appropriate enforcement action on determining that a violation has occurred. Where a responsible Agency performs an inspection that identifies a relevant violation at a commercial facility likely to accept CERCLA wastes, within five working days of the violation determination, the responsible Agency must provide written notice to the facility of the violation and the effects of applying this policy. States not authorized for HSWA corrective action should inform EPA of the violation so that EPA can notify the facility of the effect of the violation under this policy. (See RCRA Enforcement Response Policy for a discussion of appropriate enforcement responses and timeframes for Class I violations.)

When the responsible Agency determines that a relevant release has occurred, or that relevant conditions exist, the responsible Agency must notify the facility in writing within five working days of that determination. The notice must also state the effect of the determination under this policy. A copy of any notice must also be provided to the non-issuing Region or State in which the facility is located. States not authorized for HSWA corrective action should provide EPA with information on releases so that EPA can determine whether a relevant release has occurred.

Private parties conducting a response action subject to this policy will need to obtain information on the acceptability of commercial facilities. The responsible Agency must respond with respect to both pre-SARA and post-SARA wastes. In addition, the responsible Agency should indicate whether the facility is currently undergoing a review of acceptability and the date the review is expected to be completed. No enforcement sensitive or predecisional information should be released.

A facility may submit a bid for receipt of CERCLA waste during a period of unacceptability. However, a facility must be acceptable in order to be awarded a contract for receipt of CERCLA waste.

Scope and Contents of the Notice. The responsible Agency must send the notice to the facility owner/operator by certified and first-class mail, return receipt requested. The

certified notice, if not acknowledged by the receipt return card, will be considered to have been received by the addressee if properly sent by first-class mail to the last address known to the responsible Agency. The notice should contain the following:

- A finding that the facility may have conditions that render it unacceptable for receipt of off-site waste, based upon available information from an RFA, an inspection, or other data sources;
- A description of the specific acts, omissions or conditions that form the basis of the findings;
- Notice that the facility owner/operator has the opportunity to request an informal conference with the responsible government official to discuss the basis for the facility's unacceptability determination under this revised policy, provided that such a request is made within 10 calendar days from the date of the notice. The owner/operator may submit written comments within 30 calendar days from the date of the notice in lieu of holding the conference.
- Notice that failure to request an informal meeting or submit written comments will result in no further consideration of the determination by the responsible Agency during the 60 calendar days after issuance of the notice. The responsible Agency will cease any transport of CERCLA waste to the facility on the 60th calendar day after issuance of the notice.
- Notice that the owner/operator may request, within 10 calendar days of hearing from the responsible government official after the informal conference or the submittal of written comments, a reconsideration of the determination by the Regional Administrator or appropriate State official. The Regional Administrator or State official may agree to review the determination at his or her discretion; and
- Notice that such a review by the Regional Administrator or appropriate State official, if agreed to, will be conducted within 60 calendar days of the initial notice, if possible, but that the review will not stay the determination.

The facility may continue to receive CERCLA waste for 60 calendar days after issuance of the initial notice. As indicated above, facility owners or operators may request an informal conference with the responsible government official

within 10 calendar days from the date of issuance of the notice, to discuss the basis for a violation or release determination and its relevance to the facility's acceptability to receive CERCLA wastes. Any such meeting should take place within 30 calendar days of the date the initial notice is issued. If unacceptability is based on a State inspection or enforcement action, a representative of the State should attend the meeting. If the State does not attend, EPA will notify the State of the outcome of the meeting. The owner/operator may submit written comments within 30 calendar days from the date of the notice in lieu of holding the conference. If the responsible Agency does not find that the information submitted at the informal conference or in comments is sufficient to support a finding of acceptability to receive CERCLA wastes, it should so inform the facility orally or in writing.

Within 10 calendar days of hearing from the responsible government official after the informal conference or the submittal of written comments, the facility owner or operator may request a reconsideration of the determination by the Regional Administrator or appropriate State official. The Regional Administrator or appropriate State official may use his or her discretion in deciding whether to conduct a review of the determination. Such a review, if granted, should be conducted within the 60 day period (originating with the notice) to the extent possible. The review will not stay the determination.

The RPM, OSC or equivalent site manager must stop transfer of waste to a facility on the 60th calendar day after issuance of a notice. The facility then remains unacceptable until such time as the responsible Agency notifies the owner or operator otherwise. The off-site coordinator and the OSC/RPM should maintain close coordination throughout the 60-day period.

In limited cases, the responsible Agency may use its discretion to extend the 60 day period if it requires more time to review a submission. The facility should be notified of any extension, and it remains acceptable during any extension.

The responsible Agency may also use its discretion to determine that a facility's unacceptability is immediately effective upon receipt of a notice to that effect. This may occur in situations such as, but not limited to, emergencies (e.g., fire or explosion) or egregious violations (e.g., criminal violations or chronic recalcitrance) or other situations that render the facility incapable of safely handling CERCLA waste.

Implementation of this notice provision does not relieve the Regions or States from taking appropriate enforcement action under RCRA or CERCLA.

C. Procedures for Facilities with Outstanding Unacceptability Determinations

Under the original May 1985 off-site policy, facilities determined to be unacceptable to receive CERCLA wastes were provided with written notice and were generally afforded informal opportunities to comment on the determination (the latter step was not required by the policy). Although the Agency believes that these steps represented adequate procedural safeguards for facilities seeking to receive CERCLA wastes, EPA has decided to provide an additional opportunity for review, in light of this revised policy, for facilities with unacceptability determinations already in place on the effective date of the revised policy.

Any such facility that wishes to meet with the responsible Agency to discuss the basis for a violation or release determination and its relevance to the facility's ability to receive CERCLA wastes, may request an informal conference with or submit written comments to the responsible Agency at any point up to the 60th day after the publication of the proposed rule on the off-site policy in the Federal Register. Such a meeting should take place within 30 calendar days of the request. If the responsible government Agency does not find the information presented to be sufficient to support a finding of acceptability to receive CERCLA wastes, then it should inform the facility orally or in writing that the unacceptability determination will continue to be in force. The facility may, within 10 calendar days of hearing from the responsible government official after the informal conference or submittal of written comments, petition the EPA Regional Administrator or appropriate State official for reconsideration. The Regional Administrator or State official may use his or her discretion in deciding whether to grant reconsideration.

These procedures for review of unacceptability determinations that were already in place on the effective date of this revised policy will not act to stay the effect of the underlying unacceptability determinations during the period of review.

D. Re-evaluating Unacceptability

An unacceptable facility can be reconsidered for management of CERCLA wastes whenever the responsible Agency finds that the facility meets the criteria described in the "Acceptability Criteria" section of this policy.

For the purposes of this policy, releases will be considered controlled upon issuance of an order or permit that

initiates and requires completion of one or more of the following: a facility-wide RCRA Facility Investigation (RFI); a Corrective Measures Study (CMS); or Corrective Measures Implementation (CMI). The facility must comply with the permit or order to remain acceptable to receive CERCLA waste. At the completion of any such phase of the corrective action process, the responsible Agency should again review the facility for acceptability under the off-site policy using the criteria listed in this document, and as necessary and appropriate, make new acceptability determinations, and issue additional orders or modify permit conditions to control identified releases. Releases that require a determination of environmental significance will be considered controlled upon issuance of an order or permit to conduct an RFI, CMS or CMI, or upon completion of an RFI which concludes that the release is not environmentally significant. Again, the facility must comply with the permit or order to remain acceptable to receive CERCLA waste.

If the facility is determined to be unacceptable as a result of relevant violations at or affecting the receiving unit, the State (if it made the initial determination) or EPA must determine that the receiving unit is in full physical compliance with all applicable requirements. Where a State not authorized for HSWA corrective action makes this determination, it should notify EPA immediately of the facility's return to compliance, so that the Agency can expeditiously inform the facility that it is once again acceptable to receive CERCLA wastes.

The responsible Agency will notify the facility of its return to acceptability by certified and first-class mail, return receipt requested.

E. Implementation Procedures

All remedial decision documents must discuss compliance with this policy for alternatives involving off-site management of CERCLA wastes. Decision documents for removal actions also should include such a discussion.

Provisions requiring compliance with this policy should be included in all contracts for response action, Cooperative Agreements with States undertaking Superfund response actions, and enforcement agreements. For ongoing projects, these provisions will be implemented as follows, taking into consideration the differences in applicable requirements for pre- and post-SARA decision documents:

- RI/FS: The Regions shall immediately notify Agency contractors and States that alternatives for off-site

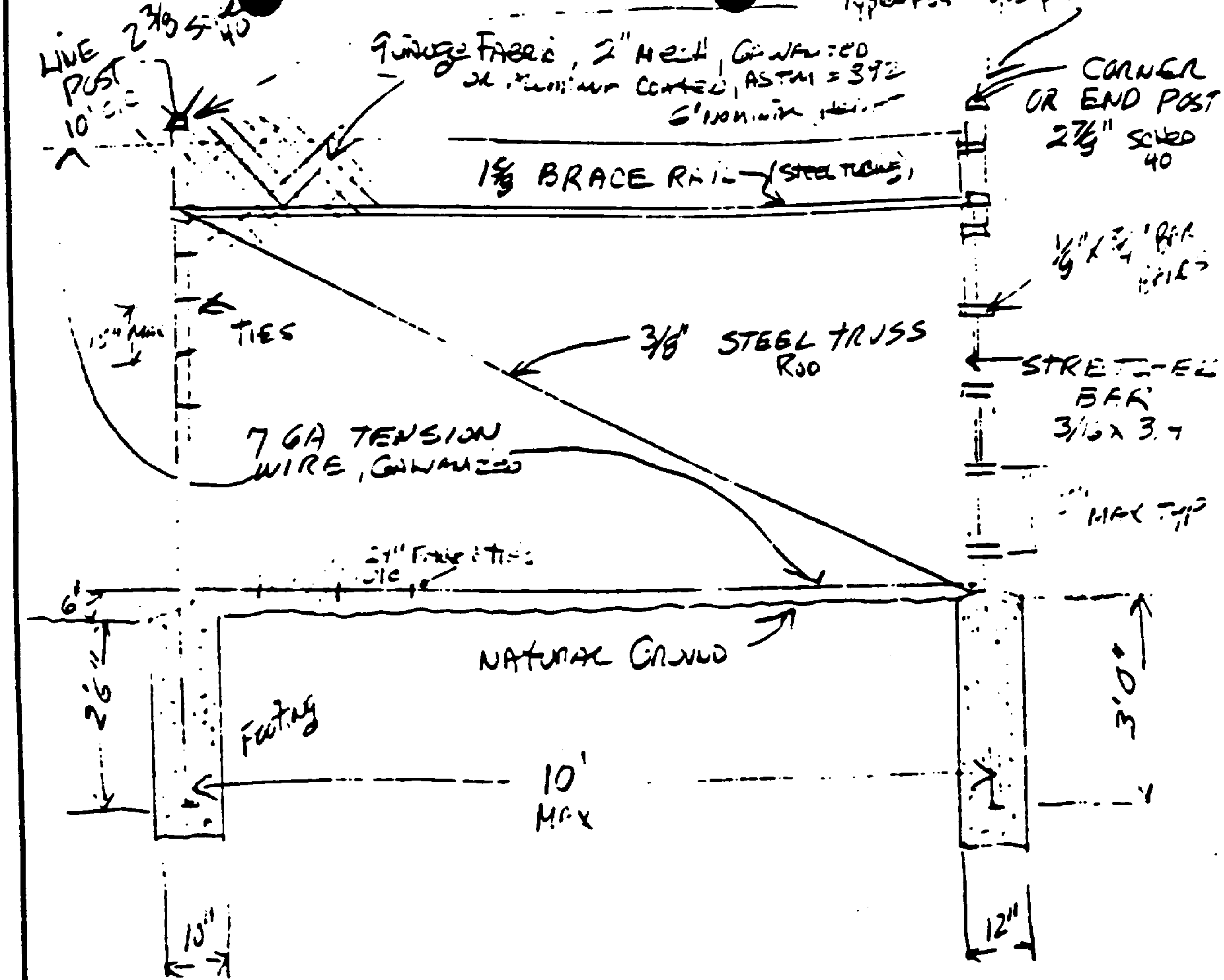
management of wastes must be evaluated against the provisions of this policy.

- Remedial Design: The Regions shall immediately notify Agency contractors, the States, and the U.S. Army Corps of Engineers that all remedies that include off-site disposal of CERCLA waste must comply with the provisions of this policy.

- Remedial Action: The Regions shall immediately assess the status of compliance, releases and other environmental conditions at facilities receiving CERCLA waste from ongoing projects. If a facility is found not to be acceptable, the responsible Agency should notify the facility of its unacceptability.

- Enforcement: Cleanups by responsible parties under enforcement actions currently under negotiation and all future actions must comply with this policy. Existing agreements need not be amended. However, EPA reserves the right to apply these procedures to existing agreements, to the extent it is consistent with the release and reopener clauses in the settlement agreement.

If the response action is proceeding under a Federal lead, the Regions should work with the Corps of Engineers or EPA Contracts Officer to negotiate a contracts modification to an existing contract, if necessary. If the response action is proceeding under a State lead, the Regions should amend the Cooperative Agreement.



TYPICAL FENCE ELEVATION

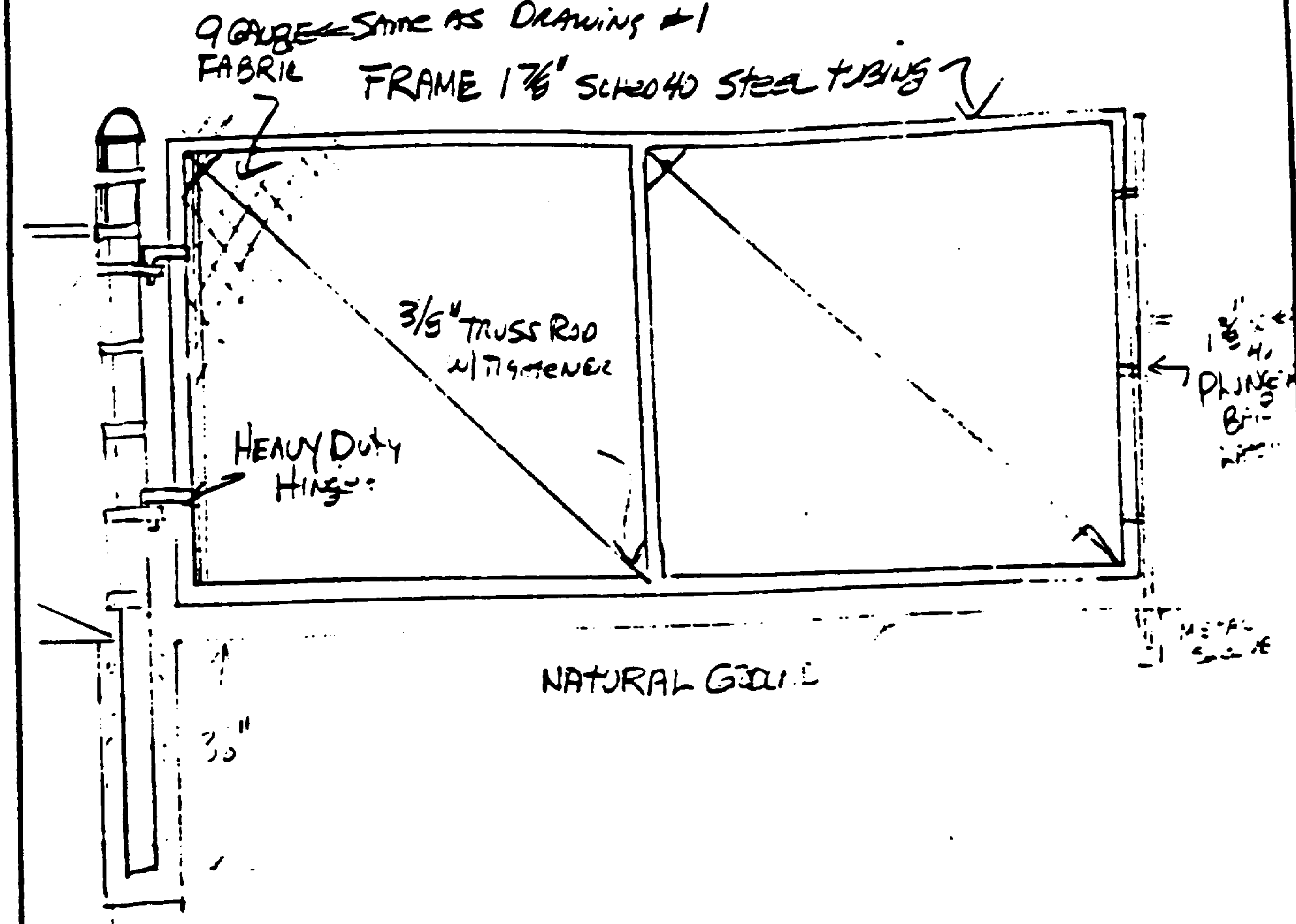
NOT TO SCALE

James E. Danner Construction, Inc.

CONTRACT NAME	CONTRACT #
McCall	F3-51944
APPROVED BY	DATE APPROVED
	17 Oct 86
SPEC SECTION	SPEC #
CHAIN LINK FENCE	2C

James E. Danner Construction, Inc. accepts full responsibility for determining and verifying all quantities, dimensions, field construction criteria, materials, catalog numbers, ...

DES		APPROVAL	
DR			
CH	PROJECT	DWG. NO. 1	REV.
SCALE			



GATE POSTS — 4" SCHED 40 pipe for 20' DOUBLE (10' LEAF)
6 5/8 " " " for 30' DOUBLE (15' LEAF)

180° swing —

TYPICAL GATE E...
NOT TO SCALE

James E. Danner Construction, Inc.
CONTRACT NAME 83-81944
APPROVED BY
DATE APPROVED 17 Oct 8..
SPEC SECTION
SPEC # 26

James E. Danner Construction, Inc. accepts full responsibility for determining and verifying all quantities, ... materials, catalog ...

DES		APPROVAL
DR		
CH	PROJECT	DWG. NO. 2	REV.
SCALE		

IFB #88- S005
ATTACHMENT 4-A

- F I N A L -

McCOLL HEALTH AND SAFETY PLAN FOR GUARD SERVICE AND SITE MAINTENANCE

FULLERTON, CALIFORNIA

Prepared by

Mark W. Pheatt, License #1599
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California Department of Health Services
Toxic Substances Control Division
McColl Project Team

May, 1988

Health and Safety Plan
McColl Superfund Site

I. INTRODUCTION

The California Department of Health Services (DHS) is the lead agency responsible for the remedial action program at the McColl site, and works closely with the U.S. Environmental Protection Agency (EPA), Region IX, under a cooperative agreement. Occasionally, DHS or EPA will acquire the services of a contractor to perform site maintenance and guard services.

II. PURPOSE OF HEALTH AND SAFETY PLAN

The purpose of the Site Maintenance and Site Security Health and Safety Plan is to define and present the work practices, protective clothing and equipment required, the specific responsibility of the employee, training programs, and the decontamination procedures necessary while working at the site. While the site maintenance and site security tasks are non-hazardous as described herein, there is potential for exposure to the hazardous waste found in the Exclusion Area of the site. Before starting work, workers must receive proper training in health and safety practices, as well as risk identification and avoidance training. In addition adequate protective clothing and equipment may also be required as conditions indicate.

This Health and Safety Plan is specifically designed for implementation and use while doing the site maintenance and security work described in Section III, below. A copy of this plan shall be posted in the office trailer.

III. CONTRACT SERVICES

The size of the tasks, as well as the frequency of need can vary; some are needed at a regular schedule, while some are required only occasionally. Workers assigned tasks under this contract shall not work with seep materials or other materials which are considered hazardous. The following are brief descriptions of the tasks to be performed by McColl contractors at the direction of DHS. All tasks are designated as non-hazardous and do not require additional precautions for working with hazardous waste:

Janitorial Services - The various trailers and offices require regular maintenance such as cleaning of the floors, desks, windows, and toilet; picking up of the trash and litter on the grounds; the regular pickup of trash bins; and other janitorial services as required. Janitorial activities will not place the workers at excess risk.

Weed Removal - The weeds and bushes at the site become occasionally overgrown and dried, necessitating removal in order to prevent fire hazard during summer months. Power

mowers and manually operated "weed eaters" are used to clear the site. The dried weeds and debris are disposed of in an authorized landfill. Weed removal activities will be generally directed by DHS representatives so as to ensure that the workers are not exposed to risk beyond that risk normally encountered as part of their routine duties. Situations which require additional precautions will be addressed in the required personal protective equipment section. Workers will use appropriate levels of protective equipment when required or as conditions dictate.

Engineering Work - Tasks such as surveying, marking of monitor wells and sump areas, grading, and repair of roadway are undertaken at the site from time to time. Engineering work activities will be performed under prescribed conditions with workers using appropriate levels of protective equipment when required, or as conditions dictate. Engineering work will be generally directed by DHS representatives so as to ensure that the workers are not exposed to risk beyond those risks normally encountered as part of their routine duties.

Repair Work on Facilities or Equipment - Repair work on the monitoring equipment, power system, lights, fences, water lines, trailers, phone, etc., may be required to put them back into good operating condition. Repair work will be performed under prescribed conditions with workers using appropriate levels of protective equipment when required, or as conditions dictate. Repair work will be generally directed by DHS representatives so as to ensure that the workers are not exposed to risk beyond those risks normally encountered as part of their routine duties.

Septic Tank Pumping - The wastewater from the office and employee decontamination (shower room) trailer are collected in an underground tank and required regular pumping and disposal by vacuum truck. Removal of septic tank contents will be generally directed by DHS representatives so as to ensure that the workers are not exposed to risk beyond those risks normally encountered as part of their routine duties.

IV. PERSONNEL HEALTH AND SAFETY TRAINING PROGRAM

A training program to provide the proper training on health and safety matters to employees and workers at the McColl site shall be developed. There will be two levels of training provided and should be given by a qualified person.

At the start of the site security and site maintenance tasks, approximately one to two hours of orientation or briefing shall be provided by DHS. This short training shall include a presentation of: 1) the hazards on-site, 2)

the health hazards associated with the site, and 3) general safety practices (Section V). Contractor employees are responsible for the proper application of the knowledge gained in the training courses. The DHS Project Engineer will walk the site with the workers to identify where seeps and other potential hazards are located.

Any required training beyond the above-mentioned site familiarization will be provided by the contractor. Employees of contractors and subcontractors will not be allowed within the Exclusion Area without fully completing the required DHS training.

Employees required to perform tasks within the Exclusion Area will be trained on the potential hazards to be encountered and provided the opportunity to wear any and all protective equipment during a training session in a non-hazardous environment. Staff will be oriented on-site as to where the hazardous seep areas are versus non-hazardous areas. This will enable workers to identify those potentially hazardous areas and to select and wear appropriate levels of protective equipment.

V. GENERAL SAFETY

It is important to provide for the safety of all on-site workers. All the equipment necessary to meet safe operating practices and procedures must be provided. All general safety guidelines and procedures will conform to:

- Title 8, California Administrative Code, Chapter 4
- Interim Standard Operating Safety Guides (U.S. EPA, September, 1982, draft)
- U.S. EPA Occupational Health and Safety Manual
- Department of Labor, Occupational Safety and Health Administration, 29 CFR, Part 1910

Copies of the above identified guidelines and regulations are available for review at the DHS office trailer at the McColl site.

In order to conform with all the applicable government regulations, the following will be provided by DHS or the Contractor, as specified:

- Emergency eye wash stations (DHS)
- First Aid station (DHS)

- Drinking water and rest stations (DHS)
- Identification and delineation of hazardous work zones (DHS/Contractor)
- A, B, C 20-lb fire extinguisher (DHS)
- Perimeter warning signs (DHS)
- Decontamination facilities (DHS)
- Identification of hard hat zones (DHS/Contractor)
- Identification of work zones for various operational activities (DHS/Contractor)
- Sanitation facilities (DHS)
- Emergency response plans (DHS)

McColl General Safe Work Practices

The following work practices will be implemented at the McColl site for the worker's safety:

- Eating, drinking, chewing gum or tobacco, and smoking will be allowed only within the support area.
- There will be no "horse play" on the site. Employees reporting for work who appear to be under the influence of alcohol, controlled substances, or are otherwise incapacitated will not be permitted on the site. The Project Engineer's judgement is final regarding these matters.
- Wash facilities will be utilized by workers in the decontamination trailer before eating, drinking, or use of the toilet facilities.
- Shower facilities in the decontamination trailer will be utilized during end of work shift decontamination procedures.
- Containers will be labeled to identify them as waste, debris, or contaminated clothing.
- Eyewash station(s) will be located in the decontamination trailer for use in case of accidental splash or contact with waste material.
- Personnel at the McColl site will use the "buddy system" when wearing any respiratory protective

equipment. Communication between members will be maintained at all times. Visual contact will be maintained between "pairs" on-site, and each team will remain in close proximity to assist each other in case of emergencies.

- When respirators are required, no facial hair which interferes with a satisfactory fit of the mask-to-face seal will be allowed. (No beards, large mustaches, or long sideburns).

- Contact lenses will not be allowed when respirators are worn. Eyeglasses can be worn if they will not interfere with the facepiece to face seal.

- All respiratory protection selection, use, and maintenance will meet the requirements of established procedures, recognized consensus standards [American Industrial Hygiene Association (AIHA), American National Standards Institute (ANSI), Mine Safety & Health Administration (MSHA), and National Industrial Occupational Safety and Health (NIOSH)], and will comply in all respects to the requirements set forth in Title 8, CAC, General Industry Safety Orders (GISO), Section 5144.

- A sufficient number of multi-purpose portable fire extinguishers will be located at the site trailer.

VI. HAZARD EVALUATION

Respiratory hazards are created by the dust, vapors, and gases released during excavation and other waste disturbing activities. Of primary concern is elevated levels of sulfur dioxide (SO2), benzene, and other organic sulfur compounds. Since no excavation will occur it is unlikely that airborne hazards will be encountered by the contractor.

Contractors shall review the requirements for implementation of an accident prevention program. Health and safety related standards are considerable. Contractors are advised to contact their worker compensation carrier for basic assistance and guidance. Additional information can be obtained from the DHS Health and Safety Officer.

From a health perspective, industrial hygiene standards prescribe acceptable methods and exposure criteria. Hazard recognition, evaluation, and control are three objectives by which an industrial hygienist implements an effective exposure reduction program. Hazard recognition and evaluation are performed by the industrial hygienist to determine the likelihood and extent of occupational

exposures workers receive during their course of employment.

The extent of exposure implies the taking of industrial hygiene measurements and then comparing these measurements against acceptable standards. Acceptable standards include those chemical criteria or Permissible Exposure Levels (PEL).

A PEL is that concentration of material to which it is believed a worker could be exposed up to eight hours per day for forty hours per week. Usually PELs are expressed in parts per million per parts of air, milligrams per cubic meter of air, or fibers per cubic centimeter.

An employee's exposure shall be limited in accordance with the requirements put forth in regulation. When employee exposures cannot be limited by engineering control (ventilators, etc.), then work practices, administration, or personal protection equipment shall be used to limit or reduce consequent exposures to below the PEL.

It is not anticipated that workers will be exposed to materials in excess of the PELs while performing tasks which are described in this contract.

Sulfur Dioxide (SO_2) is a colorless gas or liquid with a sharp, pungent odor. It is soluble in water, alcohol, and ether. It is noncombustible. SO_2 is toxic by inhalation and is a strong irritant to eyes, nose, and throat. The PEL for SO_2 is 2.0 ppm. Slight increases in breathing resistance have been reported for 1 out of 11 human subjects exposed to 1.0 ppm. Chronic exposures cause changes in lung physiology. Although SO_2 has not been found to be carcinogenic, it might act as a cancer promoter. Workers in smelters who are exposed to both SO_2 and Arsenic (As) have higher cancer rates than workers exposed to As along.

Typical background (undisturbed) ambient concentration of SO_2 typically measured at McColl average 0.012 ppm in a 24 hour period. This value is less than the PEL. It is unlikely that workers assigned tasks under this contract would be exposed to higher concentrations.

Cutaneous exposures to acid dust or sulfuric acid (hydrogenated sulfur dioxide) would not be routinely encountered by workers assigned to tasks under this contract.

Arsenic (As) is highly toxic by ingestion and inhalation. It is a known carcinogen of the skin and perhaps, of the bronchi. The OSHA standard for employee exposure is 10.0 micrograms (mg) per cubic meter of air. The ACGIH TLV is

0.2 mg per cubic meter. The chief symptoms of overexposure are dermatitis and respiratory system irritation.

Employees assigned to tasks under this contract would not experience excessive exposures to arsenic while working on this site. Previous industrial hygiene surveys of other hazardous waste sites where arsenic is present (10,000 ppm) indicated less than detectable levels in their breathing zone of exposed workers.

Two factors exist at McColl which reduce worker risk: 1) deposits of arsenic salts are limited to specific locations (Ramparts No. 1), and 2) concentrations of arsenic are low (less than 1%). Furthermore, there is no heating of the arsenic materials to temperatures greater than 900° F which would cause vaporization of the arsenic metal.

Cutaneous exposure and ingestion will be eliminated when required by use of personal protective clothing and cleanup of potentially exposed body parts with soap and water. It is unlikely that cutaneous exposures will occur.

Benzene is flammable and explosive. It is moderately toxic by ingestion, inhalation, and skin absorption. The TLV is 10.0 ppm. It is a suspect carcinogen, associated with leukemia. Overexposure is associated with blood changes, including aplastic anemia, chromosomal aberrations, and narcotic effects. OSHA is currently considering reducing the 8 hour PEL to 1.0 ppm.

Airborne concentrations of benzene anticipated to be encountered at McColl would not be in excess of the PEL. Readings from a calibrated Century organic vapor analyzer (OVA) ranged from 0 to 1.5 ppm total organic vapor in the breathing zone of workers while they engaged in repair of seeps.

Workers assigned to tasks under this contract would not be expected to receive exposures higher than 1.5 ppm, but rather considerably less. Factors which would be considered in the risk estimate include: 1) employees would not be engaged in repair of seeps or other site disturbance activities, 2) employees would be working for less than 8 hours on-site. Thus, the time weighted average exposure would be less.

Cutaneous absorption of organics, including benzene, are not anticipated for employees assigned to perform tasks under this contract.

Toluene is a colorless aromatic liquid and its toxicological properties resemble benzene, except for the chronic effects

on blood formation. Repeated small doses can cause headaches, nausea, eye irritation, loss of appetite, bad taste, lassitude and impairment of coordination and reaction time. The PEL for toluene is 200 ppm.

Airborne concentrations of toluene anticipated to be encountered at McColl would not be in excess of the PEL. Historical documentation of airborne organic vapor concentrations which include toluene, indicate that the combined vapor concentration was 1.5 ppm. Workers assigned to tasks under this contract would not be expected to receive exposures higher than this PEL, but considerable less. Factors which are considered in this risk estimate include: 1) employees would not be engaged in repair of seeps or other site disturbance activities, 2) employees would have reduced exposure times at any one specific location on-site, thus reducing their occupational exposure.

Cutaneous absorption of toluene is not anticipated for employees assigned to perform tasks under this contract.

Xylenes are generally toxic. They cause mild skin irritation and are a human eye irritant. The PEL for xylene is 100 ppm.

Airborne concentrations of xylene anticipated to be encountered at McColl would not be in excess of the PEL. Historical documentation of airborne organic vapor which includes xylene, indicate that the combined concentration was 1.5 ppm.

Workers assigned to perform tasks under this contract would not be expected to receive exposures higher than the PEL, but considerably less.

Dust generated by soil disturbance activities may present inhalation and/or dermal problems. Wetting techniques may be used to control and reduce dust. Dust control, dermal protection (Tyvek coveralls), respiratory protection (Level C), and strict adherence to decontamination procedures should protect workers if dust is liberated during any field activities.

If nuisance dust (PEL = 10 micrograms per cubic meter of air) appears to be a problem then appropriate engineering controls, or work practice controls will be implemented to prevent excessive exposures to nuisance dust. It is not expected that workers would be exposed to excessive nuisance dust while performing tasks as described under this contract.

Physical/Chemical Hazards (Seeps). Seeps are eruptions of asphaltic waste which result in black tar-like ooze (bleed), pushing up through the soil surface. Physical hazards may include stepping on the ooze, skin contact with ooze, or contact with protective clothing.

Chemical hazards include gas and vapor emissions released from the seep. The gases and vapors commonly encountered have been described.

Workers assigned tasks under this contract shall not work with the seep material. Workers shall be trained on what a seep looks like, and to avoid contact with this material. In general, workers must be trained on the specific areas which are "off-limits" at the McColl site. Most of this hazardous waste includes:

1) viscous, black, tar-like waste
2) gray sludge-like material
3) hard asphaltic waste
4) mixtures of the above

Workers shall be trained on the hazards they may encounter and appropriate methods for avoiding contact with these wastes. If workers must walk in areas where waste may occur, appropriate boot covers shall be worn. If there is the potential for workers to have hand contact with the waste, then appropriate hand protection must be worn. It is not anticipated that workers will be exposed to physical or chemical hazards while performing tasks described under this contract.

Heat stress is the total heat load imposed on the body. Environmental and physical factors constitute the major elements of heat stress during field work, and may manifest into one of the following heat disorders:

- Heat cramps -- Painful intermittent spasms of the voluntary muscles following hard physical work in a hot environment.

- Heat exhaustion -- Profuse sweating, weakness, rapid pulse, dizziness, nausea, and headache. The skin is cool and sometimes pale and clammy with sweat.

- Heat stroke -- Sweating is diminished or absent. The skin is hot, dry, and flushed. Increased body temperature which, if uncontrolled, may lead to delirium, convulsions, coma, and even death. Medical care is urgently needed.

Whenever the task requires the use of whole body suits, the environmental heat load must be determined.

- Dry bulb air temperature (Ta) is the temperature of the air registered by an ordinary mercury thermometer.

- Natural wet bulb temperature (Tnwb) is the temperature of the air registered with a thermometer whose bulb is covered with a wetted wick and exposed to a current of naturally moving air.

- Globe temperature (Tg) is the radiant heat from the sun or quartz heater which does not warm the air but heats the object it strikes, such as man.

- Wet bulb globe temperature index (WBGT) combines the natural wet bulb, globe, and dry bulb air temperature. The WBGT can be calculated from outdoor exposures as follows:

$$WBGT = 0.7\ Tnwb + 0.2\ Tg + 0.1\ Ta$$

Refer to the WBGT index (Table 1) for additional information on work/rest regime based upon the results of this evaluation.

As a rule, hyperthermia (body core temperature) should be considered whenever you conduct investigations where ambient temperatures are 70° F to measure WBGT indices.

It is recommended that at least 8 oz. of cool water, Gatorade or diluted fruit juice be drunk at each rest break. More frequent breaks may be needed if work is strenuous. These guidelines assume light to moderate work. If ambient temperatures are anticipated to exceed 80° F, set up a shaded rest area with benches.

Terrain instability. A potential hazard is the physical instability of the surface of the sumps. In previous drilling done during 1982 and 1987, settling in Ramparts Nos. 1 and 2 were noted. This settling was suspected to have been caused by drilling muds deposited in these sumps. This then caused shifting under the weight of the drill rig. Driving heavy equipment and automobiles over the top of the sump shall be avoided. Employees shall be trained to avoid standing on asphaltic materials or materials found in the sumps.

TABLE 1
PERMISSIBLE HEAT EXPOSURE VALUES
(VALUES ARE GIVEN IN C. WBGT)

WORK/REST REGIME	WORKLOAD		
	LIGHT	MODERATE	HEAVY
Continuous Work	25.0	21.7	20.0
75 Percent Work/ 25 Percent Rest, Each Hour	25.6	23.0	20.9
50 Percent Work/ 50 Percent Rest, Each Hour	26.4	24.4	22.9
25 Percent Work/ 75 Percent Rest, Each Hour	27.2	26.1	25.0

Higher heat exposures than shown above may be permissible if you have been undergoing medical surveillance, and it has been established that you are more tolerant to work in heat than the average worker, or if you have been acclimated.

It is recommended that workers use the heat stress forms; record both the WBGT temperature and your pulse rates. Pulse rates must be measured while resting or the beginning of the work day plus resting heart rate while in your office. Pulse rate must be taken during the work/rest cycle, the pulse rate must be taken. The pulse rate must return to below 50 percent above resting pulse rate prior to returning to work.

For example:

Work Cycle	Rest Cycle	Work Cycle
Resting pulse rate beginning at worK cycle 70 beats per minute.	Pulse rate at beginning of rest cycle 140 beats per minute.	Begin pulse rate shall not exceed 105 beats per minute*

* Employee shall not return to work prior to pulse rate returning to below 110 beats per minute.

Reptiles/Domestic animals. One additional on-site hazard is the grassland habitat favorable for the Pacific rattlesnake, striped racer, and ring-necked snake. Snakes may be encountered by employees assigned to tasks under this contract. Employees should be trained on this hazard and specific areas where snakes may be encountered.

Dogs, while not normally encountered when perimeter fencing is intact, can be encountered under unusual circumstances. Workers should be trained to avoid these animals and to provide the animals safe exit off the site.

Workers shall receive training in the first aid procedures and steps taken to ensure that snake or animal bites receive medical care.

VII. KEY PERSONNEL AND RESPONSIBILITIES FOR SITE HEALTH AND SAFETY

The involvement and presence of the various DHS and EPA staff members would depend on the size of the job, whether there will be potential for exposure to the hazardous waste or not, and the type of tasks as listed in Section III. The following personnel will be responsible for the implementation and execution of the health and safety requirement contained in this plan.

Health and Safety Officer (HSO):

Mark Pheatt (DHS) (916) 324-9826
Certified Industrial Hygienist

Mike Manieri (DHS) (916) 322-0477
Industrial Hygienist

These individuals are responsible for coordination of the Health and Safety Plan with the contractor and Project Engineer, and providing technical input relative to activities at the site. The HSO will have responsibility for:

- Enforcing adherence to the Site Security and Site Maintenance Health and Safety Plan
- Reviewing planned site activities and reviewing specific safety procedures for ensuring adherence to the Health and Safety Plan.
- Handling and liaison concerning health and safety at the site with representatives of the state and federal agencies

- Developing and reviewing a monitoring program to assure adequate worker protection in all areas of the site

All major changes in field operations on the site that would affect the health and safety of the workers must be reported to the HSO. The HSO or SSO may stop any operation if unsafe conditions exist.

Site Safety and Equipment Officer (SSO)

Any DHS or EPA staff member, or employee of the contractor or sub-contractor who has undergone proper training may be designated for such position by the HSO. The SSO will also have the following responsibilities:

- Conduct routine safety inspections to identify and correct any unsafe conditions. SSO has the authority to stop work until unsafe conditions are corrected to his satisfaction.

- Under the direction of the HSO, implement the air quality monitoring, conduct site training sessions and crew briefings, and record site safety performance.

When safety equipment and protective clothing are required, the Safety Officer designated by the contractor or sub-contractor shall have the following responsibilities added to the above:

- Responsible for providing, cleaning, maintaining, and inspecting required health and safety equipment (contractors are responsible for their own equipment) and will assist the HSO in the implementation of the Health and Safety Plan.

- Check each person before entering the Exclusion Area to assure correct fit and function of the protective equipment required for the level of protection needed for each person's workplace.

- Maintain records of equipment use, repair, and maintenance.

- Supervise the cleaning, maintenance, and storage of protective clothing and equipment after each work shift.

- Establish liaison with local medical facilities and emergency aid services and attend to any

emergencies that may arise at the site.

Site Security

The Site Security Contractor will be responsible for maintaining control over vehicle and personnel movement into and out of the site. The Contractor shall be responsible for maintaining daily records of personnel, visitor, and vehicle entrance/exit, to/from the site and of all deliveries made. They will insure that proper sign-in/sign-out procedures are followed at the main gate.

The Site Security Contractor will have overall responsibility for maintaining security at the site 24 hours a day to assure that no unauthorized personnel enter the site. The Contractor shall have the authority to remove any person from the site and to prevent any individual from entering the site. They shall also serve as a liaison with local police and fire departments.

VIII. LEVEL OF PROTECTION

The level of protection needed will vary according to the type of task and the potential exposure to the hazardous materials on-site. All workers working on non-hazardous tasks shall at a minimum, be in Level D protection.

The requirements necessary to achieve the various levels of protection are listed below:

Level D: Steel toe/shank boots and bootie covers; tyvek coveralls; hard hat; safety glasses; and gloves.

Level C: Level D, plus air purifying respirator with organic vapor.acid gas/particulate cartridges; neoprene outer gloves. Tape gloves and boots to coveralls with duct tape.

Level B: Steel toe/shank neoprene boots; saranex coveralls over cotton coveralls; Self-Contained Breathing Apparatus (SCBA) or air line respirator; hard hat; surgical inner gloves; viton outer gloves; tape gloves and boots to coveralls; spectacle insert, if necessary.

Exclusion Areas - As originally planned for the McColl site, the Exclusion Area covers the entire Ramparts and Los Coyotes areas. Only persons authorized by DHS and EPA will be permitted in this area. Some hazards exist in the Ramparts and Los Coyotes area, so precautionary measures and care should be taken when working near or driving in this area. The seeps, well heads, and bench marks will be pointed out during the orientation period to ensure that they are not driven over.

For non-hazardous site maintenance and site security operations, the Exclusion Area will be reduced and limited to the immediate area around the twelve sumps, any exposed seep, and the hazardous waste storage area. Such designation will be valid only while no cleanup activities such as seep excavation, covering, and removal are being undertaken.

Proper protective equipment and clothing will be required for all persons entering the Exclusion Area. All protective equipment must be checked for fit and function by the Safety Officer present.

Contractor staff who are required to walk in or upon the Exclusion Area will wear at a minimum, appropriate disposable boot covers, coveralls, and when in hand contact with the materials, appropriate gloves.

It is anticipated that no workers performing tasks under the site security and site maintenance contracts will be required to wear respiratory protective equipment. However, all contractors whose personnel will be using respiratory protection (Level C and B) shall have in effect a respiratory protection program that meets or exceeds the requirements of 29 Code of Federal Regulations (CFR) 1910.134 or Title 8 California Administrative Code (CAC) 5144. The respiratory protection training program shall, at the minimum, cover the following issues:

- medical qualification for respirator use
- respirator selection, use, and limitations (including warning properties)
- types of respiratory hazards
- fit testing, doffing, and donning
- inspection, cleaning, maintenance, and storage

Table 2 shows the level of protection, decontamination, and air monitoring needed for doing the various tasks.

Table 2 - Level of Protection Needed

Activity	Level of Protection	Decontamination*	Air** Monitoring
Janitorial Services	None	No	No
Weed Removal	Level D	Yes	Optional
Engineering Work	Level D	Yes	Optional
Repairing Equipment	Level D	Yes	Optional
Wastewater Tank Pumping	Level D	Yes	No

* Disposable, non-reusable suits, boot covers, gloves, etc. will not require decontamination. However, such disposable equipment will be collected on-site for proper disposal. All employees are encouraged to wash after working on-site This will prevent contamination of food or personal vehicles, etc.
** Air monitoring may be conducted on workers assigned tasks under this contract. Air monitoring will be conducted by DHS/EPA/HSO (See Section X).

IX. DECONTAMINATION FACILITIES AND PROCEDURES

Personnel Decontamination Facilities: The decontamination trailer is located between the administration trailer and the equipment decontamination area along the boundary of the Service Area. Access to the trailer will be limited to authorized personnel. The trailer will contain "clean-side" and "dirty-side" change areas, showers, toilet facilities, personnel protective equipment decontamination and storage area, and clean area storage. Collection containers for contaminated clothing, soiled towels, and discarded protection equipment, pre-wash area for gross decontamination, faucet and drain connections for quick cleanup, and an awning to provide shaded rest areas will be located outside the personnel trailer.

All workers or persons must complete the specified decontamination procedures after leaving the Exclusion Area. The following is a summary of the decontamination procedures:

DECONTAMINATION PROCEDURES FOR BREAKS OR LUNCH

1) Discard boot covers, coveralls, gloves (outer). Wash and rinse boots in the tubs with the brushes and solutions provided.

   a) BREAK ONLY - remove outer, inner gloves, wash hands and face; take break in designated shade area.

   -or-

   b) LUNCH - Remove boot covers and outer gloves; repeat #1a.

2) Remove tyvek coveralls (from inside out) and place it in disposal container.

3) Remove respirator (if required) and place it in the designated area.

4) Remove inner gloves and dispose of them in the disposal container.

5) Wash face and hands; take lunch break.

DECONTAMINATION PROCEDURES FOR END OF SHIFT

1) Remove boot covers

2) Wash and rinse boots in the tubs with the brushes and solutions provided.

3) Remove outer gloves and place in disposal container.

4) Remove tyvek coveralls (from inside out) and place it in disposal container.

5) Remove respirator (if required) and place it in the designated area for cleaning.

6) Remove inner gloves and dispose them in disposal container.

7) Remove inner clothing for laundering and proceed to showers.

   a) Protective Equipment (reuseable only) - All outer clothing and equipment (chemical resistant coveralls, gloves, boots respirators, and face masks) will be washed, inspected, and repaired after each use. Any equipment or clothing which

cannot be reused will be disposed of properly.

b) Protective Equipment (not reuseable) - Shall be discarded and disposed of in the disposal container.

X. AIR MONITORING PROTOCOL

An air monitoring program will be set up prior to and during routine maintenance tasks as described in Section III in order to provide the data necessary for the protection of the workers. The purpose of the on-site monitoring program is to determine if the gas concentrations around the immediate work area are safe to work with the type of protective equipment used.

Air monitoring will be performed in the active work zones on a periodic basis. This will be accomplished with the use of portable monitoring equipment such as the Interscan Sulfur Dioxide Compact Portable Analyzer for SO_2 determination and the Foxboro Organic Vapor Analyzer (OVA) for determination of hydrocarbons (HC). For work zone reference, the OSHA PEL for SO_2 is 5.0 ppm, and for benzene (as an indicator for total HC) is 10 ppm.

Integrated personal air sampling to obtain Time Weighted Average (TWA) - 8 hours will also be performed from time to time to ensure appropriate respirator selection. Total HC sampling will be performed using a personal air sampler with a charcoal tube collection device in accordance with National Institute for Occupational Safety and Health (NIOSH) Method 1501. Sulfur dioxide monitoring will be performed using a personal sampling pump and a midget impinger with hydrogen peroxide collection media in accordance with NIOSH Method S-308. Analysis will be performed by DHS or its designated contractor.

XI. MEDICAL SURVEILLANCE PROGRAM

For workers involved with hazardous tasks (i.e., seep removal), an occupational medical program will be designed to protect employees against health hazards in the Exclusion Area. The contractor's medical provider will perform all pre-placement and screening examination in accordance with the provisions of 29 CFR 1910.120(f). He will review all such examinations and maintain copies of each worker's medical file for use in event of emergencies.

The contractor's medical provider should also, if possible, visit the hazardous waste work site to get familiar with employee's tasks, work site environments, and related health hazards or potential health hazards.

XII. EMERGENCY INFORMATION

If an injury occurs on-site, the contractor shall take the following action:

- Get medical attention for the injured person immediately.
- Depending on the type and severity of the injury, notify the physician for the injured person. If a chemical exposure is suspected, contact the DHS Health and Safety Officer (HSO) for instructions.
- Notify the DHS Health and Safety Officer (HSO).
- All injuries, regardless of their severity shall be immediately reported to the DHS HSO.
- Write down all circumstances surrounding the incident which caused the injury, including but not limited to, time of day, working conditions (weather, etc.), how long it had been since the last rest period when the injury occurred, what the person was doing when injured, what all other personnel on-site were doing, what level of protection was being used, if all safety procedures were being followed, etc. All team members that witnessed the incident shall write down their recollection of the incident, give it to the site safety coordinator, or SSO who shall then write up an exposure report. These exposure reports shall be submitted to the HSO within 5 working days from the incident.

Agency	Phone Number
Local:	
Ambulance	(714) 738-6122
Hospital (St. Jude)	(714) 871-3280
Hospital (Beach Community, Buena Park)	(714) 521-4770
Police (Fullerton)	(714) 521-6700
Fire (Fullerton)	(714) 738-6122
Other:	
DHS/HSO (Mark Pheatt)	(916) 324-9826
DHS/HSO (Mike Manieri)	(916) 322-0477
DHS/Project Engineer (Barry Blodgett)	(213) 620-6189

EPA/Project Engineer
(John Blevins) (415) 974-7728

EMERGENCY ROUTES

Facilities near the job site for the treatment of industrial illnesses and injury have been selected and are shown below. The hospitals are to be located and the route driven prior to field start-up.

1. Beach Community Hospital
   5742 Beach Boulevard
   Buena Park, California

   Route: Proceed 0.8 miles due west on Rosecrans Avenue. Turn left (south) on Beach Boulevard. Proceed 1.4 miles south to 5742 Beach Boulevard. Hospital is on the left.

2. St. Jude Hospital
   101 East Valencia Mesa Drive
   Fullerton, California

   Route: 1.9 miles due east on Rosecrans Avenue. Turn right (south) on Euclid Street. Proceed 0.6 miles south on Euclid Street. Turn left (east) on Valencia Mesa Drive. Proceed 0.85 miles east on Valencia Mesa Drive to intersection of Harbor Boulevard. Continue on Valencia Mesa Drive approximately 0.1 miles to entrance (on left) to St. Jude Hospital.

Figure 1 indicates the location of the hospitals relative to the site.

XIII. REFERENCES

1. Memorandum of Seep Cleanup, Ecology & Environment, October 1987.

2. Record of Decision, Remedial Alternatives Section, USEPA, April 1984.

3. Site Safety Plan for Field Investigations, prepared by CH_2MHill for USEPA, 1987.

4. McColl Perimeter Air Monitoring, Tetra Tech Inc., July 1987.

5. Groundwater Investigation Report - McColl Site, prepared by CH_2MHill for USEPA, September 1987.

IFB #88-S005
ATTACHMENT 4-B

MCCOLL HEALTH AND SAFETY PLAN FOR SEEP REPAIR

FULLERTON, CALIFORNIA

Prepared by

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California Department of Health Services
Toxic Substances Control Division
McColl Project Team

July 1988